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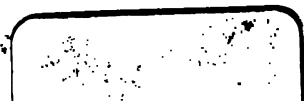
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PATENTS FOR INVENTIONS.

ABRIDGMENTS

OF

Specifications

RELATING TO

NEEDLES AND PINS.

A.D. 1755-1866.

PRINTED BY ORDER OF THE COMMISSIONERS OF PATENTS.



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P R E F A C E.

THE Indexes to Patents are now so numerous and costly as to render their purchase inconvenient to a large number of inventors and others, to whom they have become indispensable.

To obviate this difficulty, short abstracts or abridgments of the Specifications of Patents under each head of Invention have been prepared for publication separately, and so arranged as to form at once a Chronological, Alphabetical, Subject-matter, and Reference Index to the class to which they relate. As these publications do not supersede the necessity for consulting the Specifications, the prices at which the printed copies of the latter are sold have been added.

The number of Specifications from the earliest period to the end of the year 1866 amounts to 59,222. A large proportion of the Specifications enrolled under the old law, previous to 1852, embrace several distinct inventions, and many of those filed under the new law of 1852 indicate various applications of the single invention to which the Patent is limited. Considering, therefore, the large number of inventions and applications of inventions to be separately dealt with, it cannot be doubted that several properly belonging to the group which forms the subject of this volume have been overlooked. In the progress of the whole work such omissions will, from time to time, become apparent, and be supplied in second or supplemental editions.

This volume contains Abridgments of Specifications to the end of the year 1866. From that date the Abridgments have not been published in classes, but will be found in chronological order in the quarterly volumes of the "Chronological and Descriptive Index" (*see* List of Works at the end of this book). It is intended, however, to publish these Abridgments in classes as soon as the Abridgments of all the Specifications from the earliest period to the end of 1866 have appeared in a classified form. Until that takes place, the reader (by the aid of the Subject-matter Index for each year) can continue his examination of the Abridgments relating to the subject of his search in the Chronological and Descriptive Index.

This series includes the inventions relating to needles for sewing by hand, needles for sewing machines, crochet needles, and knitting needles for hand-knitting, but not the barbed needles employed in framework knitting or stocking frame machinery. It also embraces improvements in the form and manufacture of ordinary pins and hair pins, but not of breast pins, brooches, or similar articles of jewellery. Metallic or wooden pins to be used as substitutes for nails, bolts, or like articles, are not included. Several inventions of machinery for the manufacture of nails and bolts are included, but only where the application of such machinery to the manufacture of pins is obvious, or is expressly claimed. Wrappers and cases to contain needles and pins for sale appear in this series, but not cases for the pocket and work-boxes.

The Abridgments marked thus (* *) in the following pages were prepared for another series or class, and have been transferred therefrom to this volume.

B. WOODCROFT.

May, 1871.

INDEX OF NAMES.

[The names printed in *Italic* are those of the persons by whom the inventions have been communicated to the Applicants for Letters Patent. The Roman numerals refer to the Introduction.]

	Page		Page
Abraham, J. H.....	xiii	Bundy, W.....	2
Ainsley, G.....	59	Burgess, J.....	62
<i>Alexander, T. H.....</i>	46		
Atkin, J.....	29	Caird, J. K.....	57
Avery, O.....	25	Callebaut, C.....	36
—, W.....	47	<i>Cauderay, H.....</i>	56
		Clark, W.....	31
Bartleet, R. S.....	22, 28, 34, 53	Cochrane, S. B.....	50
Baylis, A. G.....	29	Cocker, S.....	11
Beard, G.....	26, 52	Cole, T. J.....	61
—, W.....	22, 26	Cottrill, J.....	33, 46
Bell, W.....	2	Cox, R.....	41
Bennett, L.....	59	Cropper, J.....	8
—, R.....	32	Crosby, C. O.....	57, 58
Bernard, J.....	19		
Berry, M.....	6, 11	Davids, W. J. L.....	60
Bethell, J.....	7	Davies, G.....	49
Billiotte, E. V.....	62	Davis, W.....	36
Birkbeck, G. H.....	46	<i>De Meckenheim, L. N.....</i>	16
Birkby, J.....	8, 9	Desborough, S.....	39, 46, 48
Bock, H.....	5	<i>Doderet, J.....</i>	62
Boesiger, J. W.....	51	Douglass, A.....	23
<i>Bourdon, E.....</i>	27	Dunnett, M.....	31
Bousfield, G. T.....	33, 42	<i>Dutel, B. G.....</i>	37
Boyle, A.....	48		
Bradbury, J. L.....	3	Edridge, J.....	30
Broderick, W. G.....	52	Essex, H.....	61
Brookes, W.....	63	Evans, D.....	62
Brooks, H. P.....	54		
Brooman, R. A.....	25, 29, 34, 37, 53, 55	Farmer, G.....	56
		<i>Farmer, G. P.....</i>	49
Brough, R.....	41	Fletcher, H.....	40
Brown, G. B.....	6	Fowler, De G.....	43
—, R.....	17	—, T.....	43, 53
Browne, B.....	60	Gee, G. P.....	51

	Page		Page
Goodman, G.....	12	<i>Mayer, G.....</i>	60
Gosling, W. H.....	51	Mayes, J.....	63
Green, J.....	29	Meckenheim, L. N. de.....	16
<i>Greenough, J. P.....</i>	42	Miller, M.....	29
Halligan, T. J.....	59	Milnes, T. B.....	8
Harding, T. R.....	45, 54	Milward, H.....	24
Harris, T.....	2	Monnin, C. F. D.....	35
Hart, H. W.....	58	<i>Moody, J. S.....</i>	38
Hebert, L.....	12	Morrall, A.....	10
Hedley, H.....	59	Morrell, R. W.....	56
Henry, M.....	36	Morris, J.....	22
Hodge, T. F.....	52	Newby, E. H.....	56
Hopson, O. L.....	54, 63	Newhall, R.....	60
<i>Howe, E., junior.....</i>	55	Newton, A. V.....	18, 23, 33, 34,
Howe, J. J.....	xi		59
<i>Howells, J. C.....</i>	53	——, W.....	13, 14, 15, 38,
<i>Hudson, H.....</i>	59		40, 50
Hughes, E. J.....	24	Nicholson, J. R.....	38
——, H.....	42	Nicoll, B.....	43, 44
Hunt, S.....	x, 4	Parkes, A.....	32
<i>Hyde, W. P.....</i>	50	Pearson, G.....	30
Iles, C.....	21, 28	Pidding, W.....	41
Jacquin, C. A.....	18	<i>Plaz, B.....</i>	40
James, A.....	20, 23	Pollack, M.....	63
Jenkins, M.....	16	Pope, F.....	10
——, W. W.....	13	Prior, G.....	xiii
Jessop, E.....	30	Rees, W.....	52
Johnson, A. F.....	45	<i>Rearoth, J.....</i>	40
——, J. H.....	27	Roberts, T.....	xiii
Jones, W.....	5, 6	Robertson, J. C.....	15
Kinsley, Dr. Apollos.....	xi	Romeu, F.....	41
Laing, J.....	57	Rowley, C.....	17
Lake, W. R.....	59	<i>Rugler, G.....</i>	40
Ledsam, D.....	5, 6	Salamon, N.....	60
Lely, A.....	43	Scambler, J.....	4
Lusty, S.....	19	Schleicher, C.....	35
——, W.....	58	——, R.....	53
Mander, J.....	49	Sheward, W.....	1
Marsh, J.....	41	Shuttleworth, H.....	10
Marshall, T.....	50	Slocum, S.....	x, 7
——, W.....	50	Smith, W.....	27
		——, W. J. T.....	32
		Sneath, W.....	9

INDEX OF NAMES.

vii

	Page		Page
Stocker, W. S.....	12	Turney, G. L.....	26, 37
Stokes, A.....	30	Twells, T.....	37
Sugden, F.....	31		
——, T.....	31	Wadsworth, James.....	55
Szontagh, S.....	26	——, Joseph.....	55
		Wakefield, J.....	27
Talbot, F.....	32	Walker, H.....	17, 35, 40, 49
Taylor, D. F.....	x, 10	Wanzer, R. M.....	52
——, J. G.....	18, 44	Warwick, T.....	48
Thomas, W.....	16	Weaver, C.....	3
Thorne, J.....	60	Weisenthal, C. F.....	1
Thornhill, C.....	50	Wells, J. S.....	45
Trotman, A.....	61	Wiley, W. E.....	31, 39, 47
——, J.....	61	Wolters, J.....	53
——, T.....	37	Wood, T.....	xii
Turner, T.....	56	Wright, L. W.....	x, 4

INTRODUCTION.

THE various stages of the manufacture of pins and needles will be found chronologically arranged in the abridgments which constitute the present series ; but it has nevertheless been thought that the addition of the few following facts will add considerably to the completeness of the work.

Pins formed of wire seem to have been unknown in England till about the middle of the 15th century, before which time they were larger than the present pin, and were made of boxwood, bone, ivory, and some few of silver. Metal pins had however long been matters of history. In the Egyptian tombs they are frequently found, and are much more elaborate and costly than those produced to suit modern requirements. They vary in length up to 7 or 8 inches, and are furnished sometimes with large gold heads, and sometimes with a band of gold around the upper end, those of the latter kind having probably been used for securing the hair. The ancient Mexicans were familiar with their use, but they also found a convenient substitute in the thorns of the agave. About the middle of the 15th century metal pins were in use to a small extent in this country, and we hear of Catherine Howard importing them from France somewhere about the year 1540. The importation of pins really dates much further back, for in 1483 it was made the subject of a prohibitory statute. In 1543, another Act, passed in the reign of Henry VIII., provided " that no person shall put to sale any pinnes but only such as " shall be double-headed, and have the heads soldered fast to the " shank of the pinnes, well smoothed, the shank well shapen, the " points well and round, filed, cauted and sharpened." Within three years from this date the manufacture was so much improved that the enactment became of little value. It is very probable that the imported pins were the cause of this manifestation of

government interference. The best pins were made of brass, but in France it had become very general to manufacture pins from iron wire, which, being blanché like the others, passed for brass. The pins so made were very defective, and in little time their use was confined to the continent. The French especially could with difficulty be prevailed upon to discard them, and even as late as 1695 it is recorded that the seizure of some millions of the faulty pins by order of the lieutenant of police, was confirmed by the parliament, and the whole quantity was ordered to be burnt by the common executioner.

The manufacture of pins was started in Gloucestershire by John Tilsby in 1626, and the business soon proved so prosperous that it gave employment to 1,500 persons. Ten years later it was established in London. About the middle of the last century wire-drawing and pin-making were commenced in Birmingham by the Rylands family, who carried on most successfully this branch of industry. So much of the business as related to pins was transferred about the year 1785 by Mr. Samuel Rylands to his nephew, Mr. Thomas Phipson, and this manufacture has since been continued by the present firm of Thomas Phipson and Son.

The trade gradually improved, but without any remarkable impetus, until 1824, when Mr. Lemuel W. Wright, a native of Massachusetts, patented in this country an important machine of his own invention (see p. 4), which is often believed to have been the first ever contrived for making solid headed pins. This is an error, as a glance at the following abridgments will show, for nearly seven years earlier Mr. Hunt had been at work on a machine for the same purpose. Mr. Wright, however, introduced his machine to the public in London, where it was worked at a factory in Lambeth. The enterprise was not successful, and the company failed before the new pins could be brought into the market. The machinery was then transferred to Stroud, in Gloucestershire, the county where the trade had been originally introduced two centuries before, and here the manufacture was conducted by Messrs. D. F. Taylor and Co. The first solid headed pins were sold by this firm in London somewhere about the year 1833.

The first efforts to establish a home trade in America appear to have been in 1775. In that year the Convention of the Province

Carolina, with a view to the encouragement of the manufacture of pins and needles, offered "50*l.* for the first twenty-five dozen of the former, equal to British imported pins, costing 7*s.* 6*d.* a dozen; and to the manufacturer of the first 25,000 needles, sorted from one to twelve inclusive, and equal to needles from Great Britain of the price of 2*s.* 6*d.* sterling per thousand, the same reward, if made within twelve months."* Who gained the prize we are not told, but it is probable that public attention was attracted to the desirability of establishing the trade, for in the same year, 1775, we hear of a proposition by Leonard Chester, of Wethersfield, to erect a pin factory at that place. Some years later Dr. Apollos Kinsley, of Connecticut, a man of much mechanical ingenuity, and the patentee of certain printing and brick-making machines, invented a machine for making pins; but neither of these projects appears to have succeeded. Soon after the war of 1812, however, when, in consequence of the interruption to commerce, the value of a paper of pins was not less than one dollar—and these were of very inferior quality to those now worth only 6 cents a paper—the manufacture was really undertaken. The first attempt was made by some Englishmen, at the old state prison, in what was then called Greenwich village, now a part of New York city. The enterprise was soon abandoned, and was again undertaken with the same tools in 1820 at the Bellevue almshouse, but again without success. In 1832 Mr. John J. Howe, of New York, patented his machine for making pins, with wire or "spun heads," like those imported from Europe; and in 1836 the Howe Manufacturing Company started at New York. Their operations were transferred to Birmingham, Connecticut, in 1838, and soon included the new process of making pins with solid heads, patented by Mr. Howe in 1840.

About the time that the Howe Company were removing to their new establishment at Birmingham, another factory was being established at Poughkeepsie, on the Hudson river, by Messrs. Slocum, Gellson, and Co., who adopted the processes invented by Mr. Samuel Slocum for producing the solid-headed pin. The interests of the latter firm were finally transferred to the American Pin Company at Waterbury, Connecticut, where the business has been carried on successfully for a number of years.

* Bishop's History of American Manufactures (Philadelphia 1861), vol. 1, p. 616. The price quoted for British pins is clearly erroneous.

At the present time the total weight of pins made in the United States is supposed to be from seven to ten tons per week.

Among uncivilised people at very early periods attempts were made to form needles or bodkins of bone and ivory. The use of needles were known to the ancient Egyptians, a few having been found in their tombs. These were of bronze and of large size, being from three to four inches in length; but Wilkinson states that such as were employed in fine work must have been of a very minute kind. Pliny mentions the use in his day of needles of bronze for sewing and knitting.

In 1370 needles were manufactured at Nuremburg.

There seems to be some doubt about the date of the introduction of the needle into this country. Stow tells us that needles were not sold in Cheapside till the reign of Queen Mary, and that they were then made by a Spanish negro, who refused to discover the secret of his art. Another authority (Wilke's London Ency.) says that they were first made in England by a native of India in 1545, but the art was lost at his death. The *Encyclopédie des Gens du Monde** says that the first metallic needle factory in England was established in 1543. We may, however, be quite sure that the needle in its present form had been introduced into England prior to 1553, for we hear of its use by the Lady Elizabeth at Woodstock in that year, and the result of her labours, the embroidered back of a book, is at present in the Bodleian Library at Oxford.

Whether or not the art of manufacturing needles was really lost at the death of the "native of India," it seems to be quite clear at all events, that no extensive centre of manufacture had been established till 1650. In that year, Mr. Damer, an ancestor of the Milton family, settled at Long Crendon, in Buckinghamshire, Christopher Greening and his three children. This little family, doubtless assisted by the benevolence of their patron, set up a small needle factory, which if it do not exist at the present day, certainly was carried on until very recently. At present Worcestershire is the chief seat of the needle manufacture, but even in this case it is not at all clear when Redditch became the centre of the trade. There are slight indications, it is said, of Redditch needle-making for a period of nearly two centuries, but beyond that all is blank. There are no particular advantages offered by

* Paris, 1833, vol. I.

the situation other than that common to many other spots, of being near to the seat of the iron trade.

It is unnecessary to enter into any particulars concerning the changes which have occurred in the needle manufacture, since the present series of abridgments embodies all the improvements of any importance. It may, however, be well to add the following descriptions of apparatus designed with the view of obviating the inconvenience caused by the dust generated in the grinding process. It is notorious that this fine mixture of metal and sandy particles is productive of serious consequences to the health of the workpeople, and as far back as the year 1811, the Society of Arts bestirred itself to find a preventive. In that year the silver medal of the society was voted to Mr. Thomas Wood, of Great Berkhamstead, for his improved grindstone for pointing needles. It was nothing more than an ordinary grindstone provided with a hood or case in which was a pane of glass to enable the operator to watch his work. The current of air formed by the motion of the stone was confined within the case, and carried with it the fine particles, which it deposited on the lower part of the inside of a wet cloth which formed the connection between the sides of the case.

In 1813, the apparatus of Mr. George Prior, jun., of Otley, in Yorkshire, for the same purpose, obtained a premium of 25 guineas. In this apparatus the dust was removed by causing a current of air "to pass the top, sides, and bottom of the grindstone by a tube enclosing them, which tube was slit lengthways on the sides, top, and bottom, opposite the workman; one end of the tube having a communication with a pair of bellows worked by a crank at the axis of the wheel" which turned the stone. The dust was blown into a receiver, from which a funnel or tube carried it into the outer air or into a chimney.

In 1815, Mr. Thomas Roberts, of Dumfries, proposed to remove the noxious dust by means of a "fly wheel or ventilator." This apparatus, for which the inventor received a reward of 10 guineas, simply consisted of a ventilating fan of the ordinary character.

The large gold medal of the society was given in 1822 to Mr. J. H. Abraham, of Sheffield, for his magnetic guard, intended to protect persons employed in pointing needles and other branches of dry-grinding. The stone rotated through a slot in a canvas or

wood screen so that the jet of dust, after having been carried beyond the screen by the force of the grindstone, was prevented from returning. As an additional preventive, magnets were suspended over the stone, and the grinder was furnished with a gauze muzzle fitted with magnets, which collected the fine metallic dust from the atmosphere.*

* For further particulars of the various contrivances here alluded to, see the Transactions of the Society of Arts, vols. 29, 31, 34, 40.

NEEDLES AND PINS.

NEEDLES AND PINS.

A.D. 1755, June 24.—N° 701.

WEISENTHAL, CHARLES FREDERICK.—A part of this invention refers to a needle with two points, one at the head and the other at the opposite end, as usual, and with an eye in the centre, which needle is to be used by holding it with the finger in the middle, so as not to require turning.

[Printed, 4d. No Drawings. See Rolls Chapel Reports, 6th Report, p. 128.]

A.D. 1775, June 10.—N° 1097.

SHEWARD, WILLIAM.—Finishing the eyes of needles. "After the needles are eyed and cuttered," the inventor makes use of a "small steel tool, drill, or rimer" carried in a lathe. This tool is kept revolving, and "the eyes of the needle are then put upon or to the point of the said drill or rimer in such manner and form, and continue there so long till the said tool, drill, or rimer hath worked in and about the eye of the needle, so as to take off and smooth all the edges from the eyes of such needles."

[Printed, 4d. No Drawings.]

A.D. 1789, June 9.—N° 1683.

SHEWARD, WILLIAM.—Finishing the eyes of needles. The inventor places on a revolving shaft a number of discs, alternately smooth and roughed. The roughed discs are larger in diameter than the smooth. When the shaft rotates the roughed or jagged discs will "take off all the square edges that punches always leave in the eye of a needle," and "the small wheels will burnish or polish the cheeks and full parts about the head of the needles and turn them off compleat."

[Printed, 6d. Drawing.]

A.D. 1795, September 8.—N^o 2063.

BELL, WILLIAM.—Manufacturing “all sorts of needles, bod-kins, knitting pins, fish hooks, netting needles, mesh pins, and “sail needles,” by casting them in moulds, by preference of sand.

To prepare a suitable metal he melts from twelve to twenty pounds weight of iron in a crucible. He then adds a mixture of charcoal dust and lime, or charcoal dust and common salt, and stirs frequently with an iron rod. By skimming the surface of the molten metal, the iron becomes refined, and is then suitable for casting. The articles thus cast are capable of being tempered and hardened or softened in the usual way.

[Printed, 4d. No Drawings. See Repertory of Arts, vol. 3, p. 47; Engineers' and Mechanics' Encyclopædia, vol. 2, p. 191.]

A.D. 1797, July 4.—N^o 2182.

HARRIS, TIMOTHY.—Manufacture of pins. The inventor makes pins from either iron or brass wire, and heads them either with “spun iron wire heads,” or by casting on heads of metal. To perform the latter operation the pin shafts are placed in a row in a suitably contrived mould, and while held therein a mixture usually of lead and antimony is run in. The pins only require separating and whitening. They are first immersed in dilute sulphuric acid and rinsed in clean water. After this they are scoured with a mixture of grain tin, red argol, and warm water. When they are perfectly clean they are coated with copper by dipping them in an aqueous solution of sulphate of copper. Finally, to whiten them they are placed in alternate layers with grain tin in a copper vessel, which is then filled up with water. The water is warmed, and a small quantity of argol or cream of tartar, finely powdered, is added. The pins are afterwards rinsed, separated from the grain tin, and dried in bran.

[Printed, 10d. Drawings. See Repertory of Arts, vol. 13, p. 217; Rolls Chapel Reports 6th Report, p. 194.]

A.D. 1809, September 28.—N^o 3268.

BUNDY, WILLIAM.—“Heading pins.” Part of the apparatus described in this Specification consists of a pair of grooved dies into which are placed the shafts to be headed. The filled dies are then screwed up tightly in a frame, after which the heads are

put on the shafts in their places. To fix them there a third die, with a number of hemispherical depressions corresponding to the number of heads to be rivetted, is placed on the heads, and the whole subjected to pressure in a fly press.

The grooves in the first dies are "contracted at that part close under the head," so that in screwing up a collar is formed on the shaft sufficient to prevent the head being forced down the shaft.

[Printed, 6d. Drawing. See Repertory of Arts, vol. 18 (*second series*), p. 203; Rolls Chapel Reports, 7th Report, p. 207.]

A.D. 1812, April 15.—N^o 3555.

BRADBURY, JOHN LEIGH, and WEAVER, CHARLES.—
 "Heading pins." "A number of hoppers, corresponding to the number of pins to be headed at the same time, which contain the pin shafts, previously pointed, are arranged close together laterally, and communicate with a box above them containing a quantity of the said pin shafts. These hoppers are furnished with an apparatus behind them which protrudes a pin shaft from each at one time into an apparatus called by us the parallels, which after meeting another apparatus that puts the heads on the said pin shafts, and which we call the header, conveys them downwards to the dies, inserts them horizontally into one set of these dies, and retires up again to its first position; after which the dies holding the pins are protruded against a corresponding set of dies which give form to the upper parts of the heads, and are compressed against them powerfully by a combined screw of a peculiar construction, which pressure compleates the external form of the heads, and at the same time fastens them firmly on the pin shafts. An apparatus for holding a large number of pin heads is so arranged above the rest of the machine that the header before mentioned takes from it a head for each shaft at each of its movements and no more; and when the heading of the pins is completed, a set of hooks of a peculiar form, connected with the parallels aforesaid, cause them to be drawn out from the dies as the said parallels convey down a fresh set of pins to the said dies."

[Printed, 1s. 8d. Drawings. See Rolls Chapel Reports, 8th Report, p. 237.]

A.D. 1812, June 2.—N^o 3571.

SCAMBLER, JOHN.—Needles. The inventor extends the point of the needle about two-thirds the length, "by means of which a " finer point is obtained." He makes the eyes square or round instead of oblong. After the needles are finished, hardened, and burnished, they are dipped in a solution of gold in acid, by means of which they receive a coating of that metal. The object of this coating is to preserve the needles from rust.

[Printed, 4d. No Drawings. See Rolls Chapel Reports, 8th Report, p. 92.]

A.D. 1817, May 23.—N^o 4129.

HUNT, SETH.—(*A communication.*)—Pin-making machines. In the inventors machine the pins are made "with a head, shaft and " point in one entire piece." The action of the machine is as follows:—The wire from which the pins are to be made is fed up to the machine, and a suitable length cut off. A die holds this piece while the head is formed, "which formation is produced by com- " pressing a portion of the wire into a globular form on the head of " the shaft." The die continues to hold the shaft after the head is formed, while the point is being made. To point the pins, a small horizontal steel wheel roughed on its upper surface, is employed. The pin shaft, being headed, is held firmly in the die, and the latter is "made to revolve about four revolutions in one direction, " and return with the same number in a contrary direction." As soon as the die begins to revolve, the pointing wheel is raised until it bears against the end of the shaft which is to be pointed. "To prevent the shaft from yielding by its spring, and thereby " escape the action of the pointer, a small presser is used, which " being forced down by the advance of a small inclined plane, " bears the end of the shaft firmly upon the pointer."

[Printed, 1s. 8d. Drawings. See Rolls Chapel Reports, 8th Report, p. 119.]

A.D. 1824, May 15.—N^o 4955.

WRIGHT, LEMUEL WELLMAN.—"Machinery for making pins." In this machine the pins are made directly from wire carried on a reel attached to the machine. The wire is drawn from the reel by a pair of pincers, and is straightened by passage through a number of pins attached to a plate. The rotation of the shaft

moves, by means of cams, the several slides and levers that work the different parts of the machine. First, a pair of cutting nippers cut off the length required for a single pin, the length being regulated by stopping screws. A carrier then takes the pin to a bevelled roughened wheel against which it is held and rotated to point it. After the first pointing the pin is taken by another carrier to the second pointing holder, when it is held against a second and more finely cut wheel, and the pointing completed. A carrier now takes the pin forward to the heading die, where, by pushing up a punch on the end of the leading bar, the head is formed. The pin is then taken by a carrier to a second heading die, and the pin is completed. Finally, the pin is pushed some way out of the die when it is seized by a forked lever, which draws it out completely, and drops it into a receptacle below.

For extension for a further period of five years, see No. 7418.

[Printed, 2s. 4d. Drawings. See Repertory of Arts, vol. 71 (*third series*), p. 129; London Journal (*Newton's*), vol. 9, p. 281; also vol. 19 (*conjoined series*), pp. 56 and 140; Inventors' Advocate, vol. 5, pp. 54, 86, and 102; Websters' Reports, vol. 1, p. 561; Carpmael's Reports on Patent Cases, vol. 2, p. 517.]

A.D. 1829, May 2.—N° 5788. (* *)

BOCK, HENRY.—(*A communication from José Heilmann.*)—This invention relates to machinery for embroidering or ornamenting fabrics by the use of a large number of needles formed with an eye in the centre and a point at each end.

[Printed, 2s. 8d. Drawings. See London Journal (*Newton's*), vol. 9 (*second series*), p. 192; and Register of Arts and Sciences, vol. 4 (*new series*), p. 134.]

A.D. 1831, December 22.—N° 6200.

LEDSAM, DANIEL, and JONES, WILLIAM.—Machinery for making pins, &c. The length of wire necessary for a pin is cut off by a fixed steel cutter. A pair of steel dies then seize the head end, leaving a sufficient portion projecting beyond them to form the head. The heading die forces this up against the pair of dies, and between them the head is formed. To point the pins they are fed from a hopper on to the periphery of a wheel, which is grooved to take the heads. The pins then lie parallel to the axis of the said wheel, and pass between the wheel and a fixed curved lever, held by a spring against the periphery of the wheel. Both the periphery of the wheel and the surface of the curved lever are covered with wash leather, and thus a rotary motion is

communicated to the pins. While moving thus, their points come in contact with a rapidly revolving file, which sharpens them.

[Printed, 2s. 4d. Drawings. See Repertory of Arts, vol. 14 (*third series*), p. 71; London Journal (*Newton's*), vol. 11 (*conjoined series*), p. 164; Register of Arts and Sciences, vol. 7 (*new series*), p. 198.]

A.D. 1833, June 27.—N^o 6444.

BROWN, GEORGE BEALE.—(*A communication.*)—Machinery for making pins. In this machine two kinds of wire are used. One kind, which is stouter than the other, is used for the body of the pin, the other and finer for the head. The fine wire is curled round the stout wire two or three times by means of a beak at the extremity of the hollow axis through which the stout wire passes, and the curl is then compressed by a pair of dies and a header. The length of wire sufficient to form the pin is then cut off and carried to the pointer. The pointer consists of a steel wheel, having two grinding surfaces forming an angular groove round its periphery. Both of these grinding surfaces cut the pin at the same time, but with different degrees of tapering. One surface forms a tapering end to the stem and the other grinds a point.

[Printed, 6s. 2d. Drawings. See London Journal (*Newton's*), vol. 18 (*conjoined series*), p. 22; Rolls Chapel Reports, 7th Report, p. 145.]

A.D. 1833, November 21.—N^o 6513.

LED SAM, DANIEL, and JONES, WILLIAM.—Machinery for pointing pins and needles. This invention comprises a modification of the inventors' former Patent, No. 6200. The wheel carrying the pins round it, and rotating them with their points against the revolving file is still used, but there is an additional wheel which also helps to shape and finish the heads of the pins during the operation. Needles are also pointed by this machine. A sufficient length of wire for two needles is cut off, and pointed at each end, after which the needles are completed in the ordinary way. Instead of the revolving file, two grindstones are used for the needles, with suitable accessories for keeping up the points, &c.

[Printed, 2s. 4d. Drawings. See London Journal (*Newton's*), vol. 17 (*conjoined series*), p. 291.]

A.D. 1834, February 19.—N^o 6558.

BERRY, MILES.—(*A communication.*)—"Machinery for making bolts, rivets, nails, &c." The lengths of wire are fed into the

machine by rollers. A pair of wedges act on the wire as stoppers, and prevent it from being drawn back as the feeder retires for a fresh length. The wire is introduced "into a pair of holding chaps and heading dies which close upon" it, "and cut off the required length." They afterwards bring it opposite the "end of a heading punch, which is moved forward by toggle joints and cams, and compresses the end of the wire into the recess in the dies, and thereby forming the head." After this the heading punch is drawn back by the action of the toggle joints and cams; the holding chaps then move back to their former position."

Various modifications of this machine are described, but the principle is adhered to in all.

This machine, being obviously adaptable to the manufacture of pins, is therefore included in this series.

[Printed, 2s. 8d. Drawings. See London Journal (*Newton's*), vol. 9 (*conjoined series*), p. 20; Rolls Chapel Reports, 7th Report, p. 149.]

A.D. 1834, March 18.—N^o 6578.

SLOCUM, SAMUEL.—The Letters Patent relate to "improvements in machinery for making pins."

[No Specification enrolled.]

A.D. 1834, April 24.—N^o 6599.

BETHELL, JOHN.—Machinery for making screws, bolts, rivets, and pins. The end of the length of metal wire is conducted into the machine through feeding apparatus or tongs mounted on a sliding plate, which tongs are made to close upon the wire and bring it forward under the operation of the cutter which severs the required length. After this is done, a pair of spring clips carries the piece opposite the mouth of the heading die. The heading punch advances and forces the piece of wire into the die, the last projecting portion being forced into a cup or recess to form the head. A second punch, working from the other end of the die, then forces out the pin from the die.

[Printed, 1s. 8d. Drawings. See London Journal (*Newton's*), vol. 5 (*conjoined series*), p. 241; Rolls Chapel Reports, 7th Report, p. 151.]

A.D. 1835, October 22.—N^o 6911.

SLOCUM, SAMUEL.—Manufacture of pins. The wire from which the pins are to be made comes from the reel to the machine

through straightening pegs. By means of "inducting rollers" moved by a ratchet wheel, a length of wire sufficient for a pin is introduced and enters what is called a "spring chuck," a number of which are situated round the periphery of a wheel. The chuck holds the blank which is now cut off from the main wire. The heading frame advances, and the dies close firmly round that portion of the wire which projects beyond the chuck, while at the same time the heading punch strikes up a head within the dies. The head being thus formed, the wheel revolves till the next chuck comes into position to take a blank. The same movement, however, carries the first chuck opposite a stationary cutter, which trims up the revolving head of the pin, already shaped in the dies. The next movement brings the head opposite a small punch which forces the head up to the chuck, and consequently drives the point out at the other side to be ready for the pointer, which it reaches at the next stage. It then passes successively to other cutters, which finish up the point, and finally it comes to rest opposite a "hooking piece," which draws it out of the chuck and allows it to fall in some convenient receptacle.

[Printed, 1s. 2d. Drawings.]

A.D. 1835, October 29.—N^o 6917.

BIRKBY, JOHN.—Pointing wire for pins, &c. The wire is fed into the machine by a pair of pliers, and a cutter cuts off a length sufficient for two pins. This piece, before being severed, is fed into the hollow axis of a rotating holder, where it is held at its middle between a set screw and a moveable lever. The holder then descends until the two ends of the wire come into contact with the small ends of two tapered revolving cutters. The holder is revolved by means of a cat-gut band. While the holder is rotating, the wire being in contact with the cutters, the latter are traversed endways, from small ends to large ends and back. Thus the wire is gradually pointed from point to shoulder. When sufficiently done, a pair of pliers moves forward, seizes the wire and retires with it, thus drawing it out of the holder.

[Printed, 2s. 8d. Drawings. See London Journal (*Newton's*), vol. 20 (*continued series*), p. 18.]

A.D. 1835, November 14.—N^o 6931.

CROPPER, JAMES, and MILNES, THOMAS BROWN.—(*A communication.*)—The Specification of this patent is for embroidering

machinery, alludes to the use of needles having a point at each end and an eye in the centre.

[Printed, 2s. 4d. Drawings.]

A.D. 1836, March 17.—N° 7034.

BIRKBY, JOHN.—Manufacture of needles. In the machine described in this specification a length of wire sufficient for two needles is drawn from the hank by the "feeder." The length is fed directly into the "holder," which consists of a pulley with a hollow axis. When the wire is inside the hollow axis a lever grips it firmly and the cutters, which are worked by a cam, detach the length from the main wire. The pulley revolves and with it the wire, the latter being held securely in the hollow axis by the lever. The holder so revolving moves to the "cutters," which consist of two roughened and bevelled steel cones. The points of the wire are pressed down on the cutters by suitable levers on each side of the holder, and the cutters are caused to travel to and fro, commencing with the larger diameter, and thereby ensuring the gradual tapering of the points. Then the cutters are succeeded by a pair of "polishers," which are similarly shaped, but covered with leather, on which is placed the emery or other polishing material. After these operations are completed a pair of pliers seizes the wire, draws it out of the holder, and drops it into a suitable receptacle. After this the blanks are divided and pierced in the usual way.

[Printed, 3s. 10d. Drawings.]

A.D. 1836, May 3.—N° 7079. (* *)

SNEATH, WILLIAM.—"Bobbin net machinery." The instruments used for making ornaments or patterns on the bobbin net or lace are, a bent or curved needle with two eyes for introducing the ornamenting thread through the lace and leaving a loop thereof; a pair of barbed points or instruments, barbed at opposite sides, for carrying the loop over the place where the needle is next to pass through, and a bent hook by which the ornamenting thread is tied into a knot at the completion of the pattern by dragging one loop through another.

[Printed, 4s. 2d. Drawings. See Webster's Reports, vol. 1, p. 264; and Rolls Chapel Reports, 7th Report, p. 175.]

A.D. 1837, August 21.—N° 7418.

SHUTTLEWORTH, HENRY, and TAYLOR, DANIEL FOOT.—“Certain combinations of and improvements in machinery for making pins.” This is an extension for the term of five years, dating from 15th May 1838, of the former Patent granted to Lemuel Wellman Wright, No. 4955, 15th May 1824.

A.D. 1837, November 25.—N° 7488.

COCKER, SAMUEL.—Manufacture of needles. The object of this invention is to complete by machinery, needles, the shafts of which have been already cut and pointed by hand or otherwise. In the machine in question the shaft is carried by a pair of pliers from one part to another. In the first place the double shaft is grooved or “guttered,” then it has the eyes drilled or punched, then it is carried to “circular or revolving mills or files,” which remove the burrs, produced by the punching of the groove, and finally it is placed in a die and divided by a punch, which cuts out a small portion of the shaft of the two needles. Thus the heads are rounded off in place of having them filed.

[Printed, 1s. 8d. Drawings.]

A.D. 1838, April 24.—N° 7623.

POPE, FRANCIS.—Machinery for making bolts, pins, nails, rivets, &c. The machinery described in this specification only refers to the manufacture of the head, the pointing or screwing has to be performed in the usual manner. Two dies are used, of which the upper one descends to press the length of metal put into the lower die. The latter is also so contrived that when the upper punch or die rises, it comes forward from under the upper die to facilitate the removal of the headed pin or bolt, and to allow of the ready introduction of a fresh length of metal to be headed.

The upper punch or die works through a kind of cup or spout containing water, and the overflow falls upon the lower die, so that both are kept cool.

[Printed, 1s. 8d. Drawings.]

A.D. 1839, January 3.—N° 7923.

MORRALL, ABEL.—Manufacture of needles. The improvements consist in “an improved mode of clearing and finishing

"the eyes of sewing needles by removing any burrs, feathers, or sharp edges from the insides of the eyes of such needles." The inventor passes through the eyes of a number of needles, "a fine wire," which he 'prefers' to be of hardened steel, the surface of which may be roughed or indented by a file or otherwise, or the wire may be made with an angular edge or edges, or charged with a composition of some grinding or polishing material, as emery and oil, or it may be smooth wire, or it is possible that some string or cord of animal, mineral, or vegetable matter, charged with a grinding or polishing material, might answer the purpose." The wire or string is then stretched in a machine for the purpose of giving to the needles a "shaking or reciprocating agitation."

On the 16 March 1841, Thomas Moore Bartleet, William Bartleet, and Charles Bartleet, to whom this patent had been assigned by the inventor, filed a disclaimer and memorandum of alterations. By this disclaimer the use of "string or cord," the polishing composition, and the "angular edge" are given up, and the wire to be used is described as "a fine wire of steel, the surface of which must be roughed or indented by a file or otherwise and then hardened."

[Printed, 8d. Drawing. See Repertory of Arts, vol. 16 (*new series*), pp. 275 and 305 for Disclaimers.]

A.D. 1839, December 2.—N^o 8289.

BERRY, MILES.—(*A communication.*)—Machinery for making pins, and sticking them in paper. The wire is conducted into the machine and straightened between two sets of adjustable pins or studs. Then a portion, sufficient for a pin, is cut off and partially headed by compressing the end of the wire by punches and dies. These partially headed blanks are then conducted from the hopper to the annealing flame, through which the head ends are passed, the rest of the shafts being immersed in water or oil. The heads are next completed by further compression or by removing the burrs, and the points are cut by file wheels or mills, revolving rapidly and acting upon a number of pins at a time. When finished they are conducted into a carrier, in which they are held by the head at proper intervals, the points downwards. The paper is crimped in two places between jaws, and while so confined between the jaws they rise and press the folds of the paper upon the pins. The annealing process may be dispensed with if preferred, in which

case the head is completely upset in the first instance, and is afterwards finished by removing the burrs or rough parts.

[Printed, 6s. 6d. Drawings. See *Inventors' Advocate*, vol. 2, p. 387.]

A.D. 1840, June 2.—N° 8531.

STOCKER, WILLIAM SOUTHWOOD.—Machinery for making “nails, pins, and rivets. A considerable portion of this specification is occupied by a description of forging machinery.

Another portion is descriptive of machinery for “forming heads to rivets and pins.” In one system the end of the rod of metal from which the pins are to be made, is thrust into the die. Shearing cutters which work in front of the die cut off the required length, and then, as they open, the heading die comes into operation and shapes the head. A piston, worked by a cam, forces out the finished pin from the rear of the die. In a modification of this machine, the length of metal is held by a pair of grooved dies, instead of by the cylindrical one above mentioned. In another machine the length of metal to be headed is placed in a moveable die, which is then placed in the machine, between the heading die and a suitable abutment. A number of these portable dies may be used to economize time. The rest of the specification relates to the manufacture of cut nails.

[Printed, 3s. 8d. Drawings. See *Mechanics' Magazine*, vol. 33, p. 606; *Inventors' Advocate*, vol. 41, p. 20; *Engineers and Architects' Journal*, vol. 4, p. 56.]

A.D. 1840, August 17.—N° 8606.

HEBERT, LUKE.—This invention consists in a means of perfecting the form and polishing the eyes of needles by drawing wire through them. The wire may be also twisted helically to afford a spring, and with the wire is used a mixture of oxide of tin (putty powder) and olive oil, or some other composition suitable for the purpose.

[Printed, 10d. Drawing. See *Mechanics' Magazine*, vol. 34, p. 175; *Inventors' Advocate*, vol. 4, p. 132.]

A.D. 1840, September 24.—N° 8640.

GOODMAN, GEORGE.—“Improvements in the manufacture of “mourning and other dress pins.” The inventor makes the pins from “iron, common steel, or cast steel wire.” This he cuts into

such lengths that each one, when divided, shall form two pins. A number of these wires are softened by exposure to a red heat, and straightened while still red hot, by rolling them backwards and forwards upon a slab under an iron bar. They are then pointed by dry grinding and afterwards, when iron wire is used, they are converted into steel by cementation. When converted they are divided and headed, either while soft or after they are hardened, after which they are blued or blacked. In the first case, the soft stem is headed in the usual manner, and then the pins are tempered by heating to a red heat and immersing them in water, having on its surface a stratum of oil. In the second case, the part of the stem intended for the head is "nicked;" it is next hardened as above, and scoured. Then the heads are put on, after having been separately scoured if it be intended that the pin shall be blued.

The improved dress pins are made according to the last-mentioned process, excepting that they are headed with silver or some other metal previously plated with silver.

[Printed, 4d. No Drawings. See *Mechanics' Magazine*, vol. 34, p. 253; *Inventors' Advocate*, vol. 4, p. 211.]

A.D. 1841, July 28.—N° 9036.

NEWTON, WILLIAM.—(*A communication.*)—Manufacture of pins and pin nails.

The operations necessary for the manufacturing of a pin from wire by this machinery, are five in number, and are performed in the following order:—First, the wire, which is carried on a reel, is drawn into the machine through the usual straightening pins. The head is then formed by a punch, either in one or two operations, as may be found necessary. The wire forming the shank, which has been thus headed, is severed from the main wire, and the shank is carried by a rotary disc to the rotary file. The point of the shank is pressed and rotated against this file, and is so sharpened. Finally, the pin, in its finished state, is drawn out of the machine by nippers, and allowed to fall into a box below.

[Printed, 1s. 6d. Drawing.]

A.D. 1841, August 27.—N° 9054.

JENKINS, WILLIAM WALKER.—Machinery for making pins and sticking them into paper. The shafts of the pins ready pointed and cut are placed in a hopper from which they are allowed

to pass one by one into a groove in a metal plate. A plunger pushes the shaft from this groove into the jaws of the holder, which then travels laterally till it comes opposite to the heading dies. The pin shaft is taken between these dies and left there by the holder which returns for another shaft. This return movement of the holder brings a second holder to the shaft now in the dies. This holder takes the shaft while the heading plunger upsets the head. Thence it carries the half-headed shaft, released from the dies, to a second heading plunger which completes the pin. The pin is pushed part way out of the holder by a spring, and a forked lever draws it out entirely, allowing it to fall into a suitable receptacle.

To stick the pins into paper a number of them are placed in a hopper which is then drawn over a grooved plate. This action deposits a pin in each groove. In front of this grooved plate is fixed a ribbed bar, also grooved transversely to correspond to the plate. The paper is hung over this bar and a second bar pressed down on it thereby crimping the paper between them. While the paper is so held the row of pins on the grooved plate is pushed into the paper, after which the operation is repeated in another part of the sheet.

[Printed, 1s. 6d. Drawings.]

A.D. 1843, March 7.—N^o 9657.

NEWTON, WILLIAM.—(*A communication.*)—Pin-making machinery. This invention is for improvements on that described in the Specification of the Patent granted to Miles Berry (No. 8289). The object of the improvements is, "to form the head of each pin by two peculiar operations instead of one, as before, by means of which a more perfect and better shaped head is obtained." The holding dies receive the wire and the length is cut off as in the former patent. "Before the length of wire is cut off the auxiliary punch advances and partially forms the head . . . The dies now move laterally, as described in the former Specification, for the purpose of bringing the pin opposite the central punch, where the head of the pin is perfected. In this instance, however, the end of the central punch is to be formed simply with a concave or recess corresponding to the desired shape of the top of the head." The invention also comprises apparatus for straightening the wire before use. The

wire is drawn through two sets of straightening pins, one set of which is vertical the other set being horizontal, and wound on a reel, which may then be transported to the machine.

[Printed, 1s. 8d. Drawings.]

A.D. 1844, September 19.—N° 10,324.

NEWTON, WILLIAM.—(*A communication.*)—Machinery for making nails, rivets, &c., which is also applicable to the manufacture of pins. The wire as it comes to the machine is received between dies and the the head is upset by the heading punch. The dies then open and the wire is fed in a little to allow more metal for the next blow of the heading punch which follows after the dies close again. The pin is then cut off and falls into into a groove near which a bar reciprocates backwards and forwards. The pins hang vertically in this groove by their heads and the bar, bearing against them, revolves them while they rest against the cutter. The cutter also reciprocates vertically, and thus the points of the pins are completed. The friction of the bar against the pins is relieved for a time in its backward motion, and thus the pins are gradually fed forward. They then fall into a conduit which ranges them in rows, after which they are pressed into the folds of the strip of paper by means of a plunger.

[Printed, 2s. 8d. Drawings.]

A.D. 1846, April 18.—N° 11,171.

ROBERTSON, JOSEPH CLINTON.—(*A communication.*)—"Improvements in the manufacture of pins." "Pins are at present made for the most part of brass wire coated with tin to protect them from oxidation; for though pins have been also made and may be still made for particular purposes of iron and steel wire similarly coated, yet, owing to the difficulty of coating the latter with tin (arising from the small affinity which tin has for iron and steel), it has been hitherto found impracticable to produce iron or steel pins of sufficient sharpness and smoothness to be suitable for general use, or applicable to any other than coarse fabrics." This invention consists "in giving the iron and steel pins a coating of copper previous to coating them with tin, the copper adhering readily to the iron or steel, for which it has naturally a strong affinity, and the tin combining with equal

"readiness with the superimposed copper, or in coating them with copper alone without any additional coating of tin."

[Printed, 10*d.* Drawing.]

A.D. 1847, March 10.—N^o 11,620.

DE MECKENHEIM, LOUIS NICOLAS.—(*Partly a communication.*)—Machinery for making nails, rivets, dressing pins, &c. The wire from which the pins are made is fed into the machine by rollers which "have a continuous motion, but portions of their surfaces are cut away in order that they may advance the wire only during part of their revolution." As soon as a length is protuded it is grasped on each side by dies which hold it while the heading punch forms the head. It is then released and fed in further until that portion which is intended to form the point is brought between the pointing tools. These consist of two discs having curved files attached to them, which curved files, by the rotation of the said discs, take hold of the partially formed pin and compress and file the point. During the operation the pin is wholly detached by cutters also on the said discs. The files are not concentric with the axes of the discs, but have an eccentricity in order that they may compress and form the point gradually.

[Printed, 7*s.* 8*d.* Drawings.]

A.D. 1847, December 31.—N^o 12,009.

JENKINS, MARY.—"Improvements in the manufacture of pins, hooks, eyes, and other fastenings" "caused by producing coloured and also white enamel or japanned surfaces thereto, . . . and also by producing a colour on a silvered surface." The japanning of such articles black is not claimed. The invention also comprises fastenings for dress and other purposes.

[Printed, 10*d.* Drawing. See Repertory of Arts, vol. 12 (*enlarged series*), p. 175; Patent Journal, vol. 5, p. 154.]

A.D. 1848, July 26.—N^o 12,221. (* *)

THOMAS, WILLIAM.—(*A communication.*)—Manufacturing garments, &c. Among other improvements this Specification describes an apparatus with needles, having eyes in the centre and points at each end; also a curved needle, across the bend of

which the thread lies in the form of a loop, to be taken hold of by a hooked instrument.

[Printed, 4s. 6d. Drawings. See *Mechanics' Magazine*, vol. 50, p. 114; *Artizan*, vol. 7, p. 154; and *Patent Journal*, vol. 6, pp. 163 and 167.]

A.D. 1848, December 16.—N° 12,370.

WALKER, HENRY.—Needles. The first part of this invention relates to the manufacture of crotchet needles by stamping in dies instead of filing them by hand. Methods of reducing the wire, flattening it, and securing the needle to the handle are also described.

The remainder refers to the process known in the trade as "dry grinding" or "pointing," and the improvement consists in the application of wet blankets to the stone to collect the fine dust that is a result of the grinding process.

[Printed, 8d. Drawing. See *London Journal (Newton's)* vol. 34 (*conjoined series*), p. 403; *Mechanics' Magazine*, vol. 50, p. 597; *Patent Journal*, vol. 7, p. 120.]

A.D. 1849, February 8.—N° 12,462.

BROWN, ROBERT.—"Improvements in machinery for perforating, sewing, stitching, pegging, and riveting." In this invention a needle is used having an eye in the centre and pointed at each end.

[Printed, 2s. 6d. Drawings. See *Mechanics' Magazine*, vol. 51, p. 141.]

A.D. 1849, October 12.—N° 12,796.

ROWLEY, CHARLES.—Safety pins. The inventor makes pins by turning back a portion of the wire and shaping the bent-back end so that it covers the point, making the pin more secure as well as protecting the point. He also protects the points of pins by caps or sheaths secured to the pin by elastic cord, coiled wire, or otherwise.

[Printed, 8d. Drawing. See *Mechanics' Magazine*, vol. 52, p. 313; *Patent Journal*, vol. 9, p. 30.]

A.D. 1850, November 30.—N° 13,371.

ROWLEY, CHARLES.—Dress pins and other fastenings. The inventor protects the points of dress and other pins by means of

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a little spring clip made of wire, and grooved on the inside faces to receive the shank of the pin. The rest of the patent refers to the manufacture of buttons.

[Printed, 10d. Drawing. See *Mechanics' Magazine*, vol. 54, p. 458; *Patent Journal*, vol. 11, p. 171.]

A.D. 1850, December 19.—N° 13,415.

TAYLOR, JOHN GEORGE.—This invention relates to the manufacture of the so-called "safety pins," and their application also to brooches, &c. It also comprises pins having a portion of the shank cut or twisted with a screw thread. The patentee also claims the use of gutta percha sheaths for the points of pins. A further portion of the patent relates to stud fasteners and buttons.

[Printed, 6d. Drawing. See *Mechanics' Magazine*, vol. 54, p. 517; *Practical Mechanics' Journal*, vol. 4, p. 85; *Patent Journal*, vol. 11, p. 171.]

A.D. 1851, June 3.—N° 13,654.

JACQUIN, CORNELIUS ALFRED.—"Improvements in the manufacture of nails, pins, tacks, screws, and other similar articles."

[No Specification enrolled.]

A.D. 1852, April 22.—N° 14,084.

NEWTON, ALFRED VINCENT. — (*A communication.*) — This patent, which chiefly relates to the manufacture of wood screws, comprises improvements also applicable to the "arranging & feeding of pins and other like articles," and also to the "assorting screws, pins, and other articles." One feature consists in taking the pins or other articles "from a hopper by means of hooked or bent fingers having a space between them sufficient for the free passage of the shanks, whilst the heads hang on them, and lifting and transferring them to inclined ways down which they run to the place of delivery with the heads and shanks in the required position." To assort screws, pins, or other articles they pass "from a hopper on to inclined ways, between which their shanks hang with the heads on the upper edges thereof, and the ways being inclined they run down by gravity towards the delivery end, where these ways are combined with a series of shifting ways corresponding in number with the number of sizes of screws, or the series may consist of two where it only required to separate one size from the mass.

“ When any one screw reaches the lower end of the permanent ways it is first arrested by a moveable stop combined with the ways and before it is delivered by the withdrawal of this first stop it is separated from the others by a second stop combined with the ways and the first stop, and for the purpose of presenting that one of the series of shifting ways which is to receive the screw to be delivered, there is combined with the shifting ways a detector, which is brought against the shank of the blank, the diameter of which determines the extent of its motion or its position.”

[Printed, 4s. 8d. Drawings. See *Mechanics' Magazine*, vol. 57, p. 374.]

A.D. 1852, June 24.—N^o 14,184.

LUSTY, SAMUEL.—Pins. In this machine the wire passes from a reel between straightening pins to the feeding apparatus. This consists of a lever actuated by a cam. The end of the lever first presses upon the wire and then withdraws a little, taking with it a sufficient length of wire. The end of the wire is taken between two dies carried in a frame. The frame and dies then traverse laterally, which movement cuts off the length of wire and brings the dies in front of the heading punch. The punch strikes up the head, and the frame returns to its former position. The feeder then draws in a fresh length of wire, which pushes the headed blank from the dies. The blank falls into a spout which leads it to a grooved channel, placed at an incline. The blank hangs by the head in this grooved and slotted channel, and travels by its own gravity till it reaches the pointing apparatus. Here it passes horizontally along the side of a revolving cutter, still hanging by the head. A strip of wood acting on the blank causes it to revolve as it passes along the cutter so that it is evenly pointed. When it arrives at the end of the cutter it falls out of the channel a finished pin.

[Printed, 1s. 2d. Drawings. See *Repertory of Arts*, vol. 21 (*enlarged series*), p. 79; *Mechanics' Magazine*, vol. 58, p. 18.]

A.D. 1852, September 10.—N^o 14,287. (* *)

BERNARD, JULIAN.—In the sewing machinery, which forms part of the subject of this patent, a double-pointed needle may be substituted for a needle of the ordinary construction; and the

needle may be made of an angular form in the cross section so as to produce stitching or sewing different from that produced by ordinary needles.

[Printed, 5s. Drawings. See *Mechanics' Magazine*, vol. 58, p. 255.]

PATENT LAW AMENDMENT ACT, 1852.

1852.

A.D. 1852, October 19.—N^o 437.

JAMES, ARTHUR.—“Needle cases or wrappers.”

The inventor first makes a case by folding over and pasting the two sides and bottom of a piece of paper. The top flap is left loose, so that it may be turned over the tops of the needles and opened at pleasure. The needles are stuck in a piece of flannel, and wrapped in metal foil “to keep them flat,” and placed in this wrapper. The packet so made up is then inserted in an outer envelope similarly made, but without the flap. Several of the packets may be put into one wrapper if desired.

[Printed, 6d. Drawing.]

1853.

A.D. 1853, January 14.—N^o 99.

JAMES, ARTHUR.—Wrappers or cases for needles.

This invention consists in :—

1. “Forming needle wrappers with a centre part of length
“suitable to the length of the needles to be enclosed, and width
“according to the number of needles to be laid therein, such
“wrapper having side and end pieces to be folded over, and thus
“enclose the needles, the end pieces being one or both of them
“so formed that when not turned over on to the needles, one or
“both ends of the needle will be exposed,” or “in
“inserting the needles in a piece of flannel, or other suitable

“ fabrics, on a strip of paper, or other fabric which is sufficiently long to fold over one or both ends of the needles, the sides or edges being open.” Each wrapper is enclosed in an outer case open at the ends.

2. “ Forming internal wrappers so that the needles do not lie close to the sides or edges thereof, the object of which is to facilitate entrance to outer cases.”

3. “ Forming the needle case in two parts, so that when one part is slid off, the other end of the needles will be exposed to facilitate withdrawal.”

4. Forming the case or wrapper with a raised rim, there being a flap or flaps which when raised expose the needles.”

5. “ Forming one or both sides of the case or holder open, or partially so, and passing the needles within or through a band, which, when a needle is required from the case, is drawn out till the needle or needles required are obtained.”

[Printed, 8d. Drawing.]

A.D. 1853, February 9.—N^o 348.

ILES, CHARLES.—Pointing wire. “The wire is fed into the apparatus through a fixed tube, through which the wire is moved at intervals a distance equal to that which is to be cut off. On the tube there is a pulley, which is driven by a band or strap; this pulley has fixed to it a boss or projection which is hollow, and moves on the tube. The boss or projection carries a lever, which has a tendency to stand off from the centre by means of a spring. Around the boss and its lever is a collar, which is capable of sliding along it; and by being slid it causes the outer end of the lever to approach the centre by pressing it into a groove in the boss. The lever carries a cutter, the cutting edge of which is formed to give the desired shape of point. The wire is supported near where the cut is made. In working, the length of wire to be cut is fed beyond the cutter; when the cutter is away from the centre of the apparatus the wire is then held in this position; the cutter is caused gradually to approach by the sliding of the collar on the boss, and the metal is cut away until the wire is reversed, the two ends being pointed, or only of them, according to the form of cutter for the time being in the machine.”

[Printed, 6d. Drawing.]

A.D. 1853, April 22.—N^o 973.

BEARD, WILLIAM.—(*Provisional protection only.*)—Needles. The inventor proposes to manufacture needles "by making them with " eyes near the points thereof, and the needles the same or nearly " the same gauge throughout," which he effects by the use of dies.

[Printed, 4d. No Drawings.]

A.D. 1853, June 1.—N^o 1339.

MORRIS, JOSEPH.—"Envelopes for needles."

The inventor claims as his invention, "cutting out pieces of " paper of a suitable form, to be folded and made into envelopes " for needles, and piercing holes in the same, for the reception of " the tucks of the said envelopes, by means of dies worked by a " screw or other press."

[Printed, 6d. Drawing.]

A.D. 1853, June 2.—N^o 1357.

BARTLEET, ROBERT SMITH.—(*Provisional protection only.*)—"Needles for sewing machines." The needles described by the inventor are shaped with "a triangular point or with a semicircular or flat point, either with or without a cutting edge." The eye of the needle is "at a given distance from the point, above or " below which eye the body of the needle may be grooved to " admit the thread, or otherwise reduced in size, or made flat on " the sides coming in contact with the thread."

[Printed, 4d. No Drawings.]

A.D. 1853, July 14.—N^o 1676. (* *)

BARTLEET, ROBERT SMITH.—Relates to sewing-machine needles. Consists in manufacturing the stems of such needles, when smaller at one end than the other, by stamping or pressing in dies. Forming the points, grooves, and impressions for the eyes of such needles simultaneously by stamping or pressing in dies. Making needles having points with angular sides, or with lancet points, or with two convex sides with or without cutting edges, and with or without grooves or recesses for the thread. Forming the needles with knobs at the ends. Burnishing the eyes of such needles with wire.

[Printed, 6d. Drawing.]

A.D. 1853, August 15,—N° 1910. (* *)

DOUGLASS, ARCHIBALD.—The object of this invention is by mechanical means to imitate as closely as possible the ordinary hand sewing operation. The needle used is pointed at both ends, with two or more eyes at the middle, and has a groove in it to receive the thread and protect it from unnecessary wear.

[Printed, 2s. Drawings.]

A.D. 1853, September 21.—N° 2187.

NEWTON, ALFRED VINCENT.—(*A communication.*)—Needle for sewing machines. The inventor makes “the needle with a crook in its length back of the eye to form a recess, across which the thread is drawn to form an open space between the body of the needle and the thread to ensure the entrance of an instrument termed the looper, the point of the needle being in the same straight line with the body back of the crook.”

[Printed, 1s. 4d. Drawings.]

A.D. 1853, December 9.—N° 2860.

JAMES, ARTHUR.—Measuring and weighing needles and preparing papers to receive them.

The inventor claims counting or measuring needles by (1) “transferring the same from one portion of a plane to another thereof, by means of a rotating wheel or disc having teeth on its periphery, which said teeth gather the needles between them during the rotation of the wheel or disc. On the said plane the rotation of the said wheel or disc being arrested at intervals suitable to effect the transfer by the said wheel or disc of a required quantity of needles.”

(2.) “A hand measure or gauge” consisting of a bar or piece of metal with a row of serrations formed thereon, which bar, when placed on a number of needles laid flat on a board, takes up the required number.

(3.) An oscillating plate at the bottom of an inclined plane. When the plate is raised the needles can no longer flow down the plane. So that by repeating the oscillations of the plate, regular supplies of needles are measured out.

(4.) "Causing the needles to descend from an inclined plane to a balanced scale pan." When the pan receives the proper supply, it descends and cuts off the supply.

The inventor prepares the needle papers "by creasing or partially folding the same by dies, and pressure, and rolls."

[Printed, *ed.* Drawing.]

A.D. 1853, December 19.—N^o 2947.

MILWARD, HENRY.—(*A communication.*)—"Machinery for the manufacture of needles and fish hooks." That for the manufacture of needles consists of "a stamping and piercing machine constructed as follows:—The partially formed needles or blanks to be pierced are put in a box which is capable of being lengthened and shortened, so as to suit needles or blanks of different lengths. One of the sides of this box is capable of rising and falling (being fixed on the end of a lever), and in rising permits of the falling out from the said box of only two needles or blanks. The said two blanks are taken hold of by a carrier, and conveyed to the press, which contains two pairs of dies, one pair for impressing, and another for piercing the eye of the needle. . . . The needles or blanks held by the carrier are brought first between the impressing dies, and the said dies close thereon; the dies open, and the carrier takes forward the impressed blank between the piercing dies, and brings forward the second blank between the impressing dies; the press at each closing impresses one and pierces another blank. The pierced blanks are loosed by the carrier and fall from the machine."

[Printed, *ed.* Drawing.]

A.D. 1853, December 27.—N^o 2996.

HUGHES, EDWARD JOSEPH.—(*A communication.*)—"Needles for sewing machines. The inventor makes them "with spring eyes or eyes sufficiently long to allow the sides to spring out a little to admit of a hook and take the thread through it. Another modification of the improvement in the needles consists of making them tubular with a rod or piston working inside of each of them, the said rod or piston being acted upon by a spring, so that when the thread is laid into the hook or bearded eye, the rod or piston by means of the spring passes down the

" tube, and keeps or confines the thread in the eye.
 " Another modification of the said improvements consists of
 " making a slide to pass over the hook or open eye of the needle
 " to keep the thread in its place as aforesaid."

[Printed, 1s. 2d. Drawings.]

1854.

A.D. 1854, March 20.—N^o 664. (* *)

BROOMAN, RICHARD ARCHIBALD.—(*A communication.*)—(*Provisional protection only.*)—Improvements in sewing machines.

1. So constructing and applying the friction brake upon the thread that, in rapid work on harsh materials, the breaking of the thread at the period of greatest strain is obviated.

2. Improving the form of the needle, whereby, in sewing leather and similar materials, the hole is so made that the process of finishing the stitch is greatly facilitated. This is effected by enlarging that portion of the needle which, having entered the material, is to retire from it before the pull upon the last loop is commenced.

3. So forming the bed or plate on which the work rests that, in turning the work, in order to sew in a curve, the stitch may be as perfectly formed as when sewing in a right line.

[Printed, 4d. No Drawings.]

A.D. 1854, July 6.—N^o 1482.

AVERY, OTIS.—A "split needle" to be used with an eye pointed needle in sewing machines. There are various ways of constructing such a needle. (1.) The needle is so contrived as "to pass between the eye pointed needle and its thread while closed, and before it is withdrawn the needle is opened or spread apart in such manner as to spread the loop for the eye pointed needle to pass into." (2.) The split needle may be made to pass through the fabric as well as through the loop, thus it will hold the loop near the cloth. In this case the "two branches of the needle come to a very sharp point," or else one branch is pointed and longer than the other, "which when closing upon the long branch forms one body with it." Either of these needles is made to open "by counteracting the springy action of one or the other of the branches by drawing it back against a

"projection." (3.) The loop needle may also consist of a needle "with the point standing obliquely to the line of the seam, seen in plan; this needle may pass to or through the fabric, and spreads the loop of the thread by its curved part." (4.) It may also be "forked, and pass between the eye pointed needle and the thread perpendicularly, or at an angle This forked needle is then made to revolve about a quarter of a turn, . . . thereby spreading the loop."

[Printed, *6d.* Drawing.]

A.D. 1854, July 7.—N^o 1495.

BEARD, GEORGE, and BEARD, WILLIAM.—Machine for depositing needles into their packing papers. The needles are placed in a hopper, the bottom of which is closed by a sliding plate. A portion of this plate is grooved with as many grooves as there are needles to be deposited at a time in the papers. When the grooved part is slid under the hopper it takes up a needle in each groove, and when it is slid from under the hopper it carries away the needles contained in the grooves with it. On each side of the plate is the "lifter or discharger, which delivers the needles" from the plate to the papers.

[Printed, *4d.* No Drawings.]

A.D. 1854, September 11.—N^o 1980.

SZONTAGH, SAMUEL.—Needles for sewing machines. The invention consists "in making the point of the needle flat and broad; and, secondly, in placing the said needle in such position as that the broad and flat part of the needle makes an angle of about 45 degrees with the line of the thread which passes through the eye of the said needle, and is designed for the purpose of preventing the holes formed by the needle cutting the thread of the stitch last made."

[Printed, *6d.* Drawing.]

1855.

A.D. 1855, March 28.—N^o 680.

TURNEY, GEORGE LEONARD.—Arranging pins and needles for sale. The inventor thus describes his invention:—"Instead

" of folding up the needles in thin flat packets, as at present, I
 " lap paper around them and set them up on end (in given
 " numbers) in an annular or other shaped groove or space made
 " to receive them in a small case. When, therefore, the lid of
 " the case is removed the needle heads will be exposed to view."
 The pins are stuck in a piece of paper " which is folded so as to
 " cover their ends and leave their heads exposed. The folded
 " paper thus charged with pins I fold back upon itself, placing
 " between each fold a slip of cardboard or other filling. When I
 " have thus made a package of the required size I place it in a
 " box of a capacity suited to receive it and the pins will then
 " stand up in rows with the heads exposed to view."

[Printed, 8d. Drawing.]

A.D. 1855, May 7.—N^o 1019.

JOHNSON, JOHN HENRY.—(*A communication from Eugene Bourdon.*)—This invention consists in making pins either for the
 " hair or for dress," with undulations " on their shanks." The
 pins may have " projections or irregularities formed on the surface
 " of their shanks," or the shanks themselves may be undulated
 or waved by means of dies.

[Printed, 8d. Drawing.]

A.D. 1855, July 18.—N^o 1614.

SMITH, WILLIAM.—"Improvements in the manufacture of
 " steel wire for musical instrument, sewing needles," &c. The
 wire is annealed by drawing it through a furnace. In order to
 temper it it is conducted, as it comes from the furnace and " whilst
 " in a state of red heat into a chamber largely charged with
 " oxygen gas."

[Printed, 4d. No Drawings.]

A.D. 1855, October 18.—N^o 2334.

WAKEFIELD, JOHN.—Improvements applicable to pin making
 machinery, viz. :—

1. The use of " two adjusting screws, wedges, or stops, which
 " may either be fixed one at each end of the feed bracket or on
 " the feeding slide. These stops can be adjusted so as to regulate
 " with the greatest nicety the quantity of wire or other material
 " fed into the machine at each motion."

2. "A relief lever or clutch applied to the feed rod by which the risk of bending or doubling up of the wire" is avoided since the "relief lever or clutch opens upon the application of an extra strain and the machine ceases to feed."

3. "Adjustable slides for affording a nearly continuous bearing for the wire or rod to be made into blanks and thereby permitting the working up of the ends of the said wires or rods;" also a method of dovetailing the end of a wire to be introduced to the end of the wire already in the machine.

4. A counter to register the number of pins or other articles turned out by the machine.

[Printed, *sd.* Drawing.]

1856.

A.D. 1856, February 25.—N^o 479.

ILES, CHARLES.—Pointing hair pins and making them up for sale. The wire is drawn by a feeder towards a cutter, "and into notches or recesses in the periphery of a wheel. When the wire is cut off this wheel is acted upon by a ratchet, and made to carry the length of wire to another wheel and deposit them in notches in the periphery of the last-named wheel. The said notches are parallel to the axis of the wheel. The lengths of wire are carried to a steel cutting mill or grinder, to which a rapid rotary motion is given." The wires are also rotated "by the said wires bearing on the edge of a drum or disc of somewhat less diameter than the wheel, in the notches of which the wires are held; the said drum or disc is concentric with the axis of the wheel carrying the wires, and moves in an opposite direction." A hopper, into which the wires cut to a proper length are put may be used instead of the feeder.

The pointed wires are bent into hair pins in the usual manner.

With regard to the second part of the invention, elevations or ridges are produced in the paper by means of pressing dies, or by folding. The hair pins are then stuck in these ridges.

[Printed, *sd.* Drawing.]

A.D. 1856, March 10.—N^o 583.

BARTLEET, ROBERT SMITH.—(*Provisional protection only.*)—Needle cases or holders formed of various substances and capable

of holding various quantities of needles without the use of paper wrappers. The bottom of the case or holder is inclined "to cause the needles placed therein to range in steps one above the other." In some cases cork or other soft material is fitted to receive the points of the needles. The lids may be similarly fitted.

[Printed, 4d. No Drawings.]

A.D. 1856, June 17.—N° 1427.

BAYLIS, ARTHUR GEORGE. — Needles. The inventor makes "the eyes of needles of an elliptical or nearly elliptical form," and he makes "on the body of the needle near the lower part of the eye an inclined groove or depression running into the eye." The groove is formed on each side of the eye.

[Printed, 4d. Woodcut.]

A.D. 1856, June 23.—N° 1475. (* *)

ATKIN, ISAAC, and MILLER, MARMADUKE.—"Improvements in machinery for sewing lace and other fabrics." In the machine described "a needle is used which is straight, except near the hinder end, where it is bent into the segment of a circle. Instead of an eye (as in the ordinary sewing needle) a beard or hook is formed, the point of which is bent down into a nick made in the substance of the needle. This hook facilitates the threading of the needle and the throwing off or unthreading."

[Printed, 6d. Drawing.]

A.D. 1856, September 24.—N° 2232.

BAYLIS, ARTHUR GEORGE, and GREEN, JOHN.—(*Provisional protection only.*)—Finishing the eyes of needles by stringing them on a roughened wire, to which an alternating motion is communicated by mechanical means.

[Printed, 4d. No Drawings.]

A.D. 1856, November 25.—N° 2794.

BROOMAN, RICHARD ARCHIBALD.—(*A communication from Eugene Lebec.*)—(*Provisional protection only.*)—"Improvements in machinery for embroidering," in which needles pointed at both ends are used.

[Printed, 4d. No Drawings.]

A.D. 1856, December 20.—N° 3014.

EDRIDGE, JOHN.—(*Provisional protection only.*)—The proposed improvements in the manufacture of hair, shawl, and other dress pins “consist in corrugating or otherwise bending such pins, either “throughout the entire length, or portion of the length, or at “one or both points, so as to cause such pins to take a firmer “hold.” The corrugations are to be performed by “two dentated “cams.”

[Printed, 6d. Drawing.]

1857.

A.D. 1857, January 16.—N° 134.

EDRIDGE, JOHN. — (*Provisional protection only.*)—“Safety “pins.” The inventor makes the safety pin by coiling a portion of its length round itself so as to form a spiral. “After passing “the shank of the pin into the garment or hair by giving the pin “half a turn or a whole turn or more round the point” of the spiral “enters the hair or garment,” and secures the pin. The inventor also proposes to make hair pins with three or more shanks instead of two.

[Printed, 4d. Woodcuts.]

A.D. 1857, February 10.—N° 378.

STOKES, ABEL.—Heading dies. Under this patent the inventor claims the use of “dies or tools for holding spikes or pins “and other articles while heads are formed thereon, the said dies “or tools having a yielding or spring bottom.”

[Printed, 6d. Drawing.]

A.D. 1857, April 7.—N° 974.

PEARSON, GEORGE, and JESSOP, EDWARD.—In the sewing machine which is the subject of this Patent, the inventors “employ a spiral needle instead of the partly circular or straight “needle at present in use.” This needle is used to carry the under thread, the vertical needle forming the loop in the usual way.

[Printed, 10d. Drawing.]

A.D. 1857, April 16.—N^o 1074.

SUGDEN, THOMAS, and SUGDEN, FREDERICK.—Needles for sewing machines. The inventors describe their improved needle as follows :—" Instead of employing a partially circular or straight needle for the under thread, we employ a bent needle, somewhat resembling the letter L, having an oscillating or to-and-fro motion imparted to it either transversely or parallel with the advance of the work. The said needle consists of two parts, one resembling the other, with the exception of the eye, which is only in one of the parts. The said needle is placed upon a shaft, the part with the eye being fixed, and the other fitting so that it may slide to and fro in order that the parts of the needle may be alternately close to each other or slightly open."

[Printed, 1s. Drawings.]

A.D. 1857, April 23.—N^o 1143.

DUNNETT, MATTHEW.—" Improvements in embroidering or sewing, and in machinery or apparatus connected therewith." The needle employed in this apparatus is pointed at both ends, and has a central eye

[Printed, 1s. Drawing.]

A.D. 1857, April 24.—N^o 1160.

CLARK, WILLIAM.—(*A communication.*)—Embroidering machinery. The patentee uses in this machinery a needle pointed at each end, with an eye in the middle.

[Printed, 2s. Drawings.]

A.D. 1857, May 2.—N^o 1246. (* *)

WILEY, WILLIAM EDWARD.—" Improvements in boxes or cases for containing needles, leads for pencils, pens, and other articles." Each box is made with one, two, or more compartments according to the nature and shape of the articles to be contained therein. On the upper end is a tubular chamber having holes through it corresponding in position with the compartments. Over this chamber is a curved cover which has also corresponding holes. " This cover is capable of rotating over the upper cylindrical chamber," and is connected with the ends of it by turning the ends of the cover " into the recessed ends of the chamber." The covers may be arranged to move with

“ sufficient friction to prevent their motion, except when forced
“ to move by hand, or they may be held by springs or other
“ catches.”

[Printed, 6d. Drawing.]

A.D. 1857, May 7.—N° 1290.

BENNETT, RICHARD.—Making up needles for sale. In papering needles according to this invention the patentee attaches “ a piece
“ of cloth or fabric to the paper wrapper by gum or other adhesive
“ matter, the said piece of cloth or fabric being attached to the
“ paper by its ends. The middle part of the cloth or fabric being
“ loose or unattached to the paper. The needles are passed
“ through the loose part of the cloth or fabric, and the ends of
“ the paper are turned down upon the needles. The packet thus
“ formed may be enclosed, if thought desirable, in a second
“ paper.”

[Printed, 6d. Drawing.]

A.D. 1857, June 24.—N° 1766. (* *)

PARKES, ALEXANDER.—(*Provisional protection only.*)—This invention is entitled “ Improvements in coating metals with other
“ metals.”

The inventor states :—“ This invention has for its object improvements in coating metals with other metals. For this
“ purpose zinc in a granulated or divided state, or other metal
“ positive to the metal to be coated, is added to the coating
“ solution, which may be prepared as if it were to be used for
“ depositing metals with a galvanic battery in the ordinary way
“ of electro-deposition. The article to be coated is immersed and
“ moved about rapidly in the solution in contact with the zinc or
“ other metal until a coating of sufficient thickness is obtained.
“ This process is particularly applicable to coating small articles,
“ such as pins, nails, or screws, which cannot conveniently be
“ coated by the use of a battery.”

[Printed, 4d. No Drawings.]

A.D. 1857, July 11.—N° 1932.

SMITH, WILLIAM JOHN THOMAS, and TALBOT, FREDERICK.
—Hair pins. The improvements consist in “ manufacturing hair
“ pins from flattened wire instead of from cylindrical wire,” and

also in "twisting the wire . . . near the middle of each limb of
 " the said hair pins. By the use of flattened wire great elasticity
 " is given to the hair pin in the direction in which the two sides
 " have to move."

[Printed, 6d. Drawing.]

A.D. 1857, August 13.—N^o 2160. (* *)

BOUSFIELD, GEORGE TOMLINSON. — (*A communication.*) —
 " Improvements in sewing needles." This improvement consists
 in constructing the needle with an opening to the eye from the
 side, so that the needle may be threaded at any part of the thread,
 or in other words it is not necessary that the point or end of the
 thread should be passed through the eye. The sides of this
 opening close together again after the thread has been forced in,
 and yet the entrance is so formed as not to catch in the work.

[Printed, 6d. Drawing.]

A.D. 1857, October 21.—N^o 2688.

NEWTON, ALFRED VINCENT. — (*A communication.*) — Part of
 this invention relates to the under needle of sewing machines.
 This under needle is "curved, so that although the holder vibrates
 " only in one direction, the needle appears to curve partly round
 " the vertical needle as it makes its upward motion. It is also
 " slightly curved downward, that is to say, its point moves in a
 " segment of a circle of smaller diameter than its stem. . . .
 " By curving the needle in the manner described, the loop draws
 " out of the way of the needle, so that the stitch is completed in
 " a proper manner."

[Printed, 1s. 8d. Drawings.]

A.D. 1857, December 28.—N^o 3175.

COTTRILL, JAMES. — This invention "refers to the kinds of
 " needles known as sail-making needles, packing-needles, gloves'
 " needles, and any other similar kind of needles, which are or
 " may be most conveniently made, either oval or flat, or triangular,
 " or what are usually termed by the workmen three square in
 " section or four-sided in section, for any portion or the whole
 " of their length," and the present improvement consists in
 " grooving or fluting one or more of the sides of such needles in
 " the form and after the manner in which the sides of a bayonet

"blade are fluted." The inventor does not confine himself to any particular mode of effecting this, but he describes several methods.

[Printed, 4d. No Drawings.]

1858.

A.D. 1858, February 1.—N° 185.

BROOMAN, RICHARD ARCHIBALD. — (*A communication.*) — "Improvements in sewing machines." These machines employ a needle having a barb at its point instead of the usual eye.

[Printed, 6d. Drawing.]

A.D. 1858, February 12.—N° 271.

NEWTON, ALFRED VINCENT. — (*A communication.*) — "A single needle sewing machine." The inventor makes use of a needle with a hooked or barbed point. On the edge of the slot in the cloth presser of the machine there is a projection, which closes the barb or hook while the needle is moving down with the thread to form the stitch.

[Printed, 8d. Drawing.]

A.D. 1858, February 12.—N° 272.

NEWTON, ALFRED VINCENT. — (*A communication.*) — "Machinery for stitching or working button-holes." An ordinary needle is employed, but to attach the thread more securely to the needle, the use of one with two or more eyes is suggested.

[Printed, 1s. Drawings.]

A.D. 1858, March 6.—N° 450.

BARTLEET, ROBERT SMITH. — Needle cases and wrappers.

The inventor claims as his invention, "forming papers, envelopes, or cases for holding needles by making an incision or cut at that part of the paper or blank at which the heads of the needles will be situated when the said paper or blank is folded, the said incision forming an opening through which the needles may be withdrawn from the case."

[Printed, 6d. Drawing.]

A.D. 1858, May 3.—N° 982.

SCHLEICHER, CHARLES.—Machinery for pointing pins and needles, &c. In this machine the pins are revolved along a curved bar, placed transversely to the grindstone by means of a disc, the periphery of which is covered with india-rubber. Inclined planes at each end of the bar serve to conduct the pins to and from the grindstone, and while the pins pass along the bar their points come into contact with the stone and are so perfected.

[Printed, 1s. Drawings.]

A.D. 1858, May 19.—N° 1112.

WALKER, HENRY.—Improvements in needles. The feature of this invention consists in manufacturing needles with a portion of the metal of the needle "raised on the side towards the point in front of the eye." Thus the "guttering" in front of the eye is avoided, and the needle is said to pass more easily through the fabric.

[Printed, 6d. Drawing.]

A.D. 1858, May 25.—N° 1166.

MONNIN, CHARLES FREDERIC DIETZ.—(*A communication.*)—Machinery for heading pins, rivets, &c. The inventor constructs a machine with "four steel blocks arranged in a square, and "having corresponding semi-cylindrical or other grooves in their "adjoining sides, so as to form four dies for the reception of the "wire. These dies are mounted on a block, which is turned "round one-quarter of a revolution at regular intervals, by which "means the wire is cut off and presented to the successive "heading punches." By another method "each die may always "act with the same punch (there being a separate punch for "each die), and the wire or blank may be removed by fingers or "self-acting pincers, or otherwise from one die to another, and "may be guided into the die or dies by countersunk guides or "funnels." If it be desired to anneal the blanks after the first heading operation they must be removed, and after annealing, re-fed into the machine. For this purpose the partially headed blanks are placed "in a revolving dish, into which an inclined "forked dips at intervals. The motion of the dish pushes

" some of the blanks into the fork; the blanks with their heads downwards fall out, but those with their heads upwards are lifted by the fork, which rises until the blanks slide from it into a channel between two inclined fixed bars or blades, down which they slide to the apparatus, by which they are to be placed in the machine." By means of a suitable contrivance the channel is stopped when full of blanks. In other modifications the dies are divided into two sets. One pair opens and the other holds the wire and traverses with it to the next pair, where it meets another punch. Or the punches may be traversed and the dies remain stationary.

[Printed, 2s. 10d. Drawings.]

A.D. 1858, May 26.—N° 1185. (* *)

HENRY, MICHAEL.—(*A communication from J. Imbs.*)—A portion of this invention refers to "warp needles" which are "formed with two eyes, connectèd at one side by a groove; this prevents the thread from uniting; and when the needle is drawn back to form a loop, the thread on the side opposite the groove, coming against the material, forms a regular loop, while that sunk in the groove comes down without forming one."

[Printed, 10d. Drawings.]

A.D. 1858, June 10.—N° 1320.

DAVIS, WILLIAM.—Crochet needles, &c. and their stocks or pads. The tang of the needle is made slightly taper, and without any shoulder. This tapered part fits into a correspondingly tapered socket in the handle or stock. Thus needles with various tapers may be inserted in the same stock. At the end of the tapered socket, that is to say, at its apex, is a transverse hole. When it is desired to remove the needle, the introduction of a common nail or any like article in the transverse hole will force out the needle.

[Printed, 8d. Drawing.]

A.D. 1858, August 4.—N° 1766.

CALLEBAUT, CHARLES.—Sewing machines for sewing sacks and other strong articles.

The patentee mentions in his Provisional Specification the use of "needles perfectly round, the flutings being made with a burin

"or cutter." He also describes a machine "destined to make the special needles employed for this kind of machine. This tool consists in a pincer for holding the needle, a cutter for making the flutings, and a punch for making the holes." The Final Specification does not, however, contain any allusion to the needle or tool.

[Printed, 10*d.* Drawing.]

A.D. 1858, August 27.—N° 1938.

TROTMAN, THOMAS.—Hair pins. The inventor claims, under this patent, the improvement in the manufacture of hair pins, consisting in "corrugating or undulating the limbs of those articles . . . in a direction at right angles, or nearly so, to the plane of the two limbs of the pin."

[Printed, 6*d.* Drawing.]

A.D. 1858, September 24.—N° 2151.

TURNER, GEORGE LEONARD.—"Packing pins for sale." The inventor says:—"I form a kind of book having leaves of paper (divided by guards) to receive severally a row of pins, and one side of the cover of this book I extend so that it shall lap over the edges of the leaves. Into these leaves I insert the pins in the usual way of sticking pins into paper, and I either close the ends of the book by pasting down side lappets or otherwise, or I leave the ends open."

[Printed, 6*d.* Drawing.]

A.D. 1858, October 20.—N° 2344.

TWELLS, THOMAS:—"Machinery for embroidering or ornamenting woven, looped, or laced fabrics."

The needle employed has a single barb. After the needle has passed through the fabric, the thread is laid across the needle, which is then withdrawn from the fabric, a pair of pressers compressing the barb so that the needle carrying the thread with it is not hindered in retiring through the cloth.

[Printed, 3*s.* Drawings.]

A.D. 1858, December 30.—N° 2991.

BROOMAN, RICHARD ARCHIBALD.—(*A communication from B. G. Dutel.*)—"Embroidering machine."

In this machine the needles, which are placed under the fabric, "are slightly bent back," or of a "somewhat curved form," in order to allow the hooks to take the threads from the needles. These threads then become looped to the hooks, and by subsequent movements form with a second thread "knots above the fabric."

[Printed, 10d. Drawing.]

1859.

A.D. 1859, February 12.—N^o 407. (* *)

NEWTON, WILLIAM EDWARD.—(*A communication from James Stebbings Moody.*) — (*Provisional protection only.*) — "Sewing machines," in which a "double-pointed needle" is used, passing backwards and forwards through the fabric and held by suitable holders.

[Printed, 4d. No Drawings.]

A.D. 1859, March 9.—N^o 612.

NICHOLSON, JOHN ROBINSON.—Machinery for manufacturing needles and pointing pins, &c.

The wires or blanks, each of which is enough for two needles, descend by their own weight along an inclined plane. An endless band then carries them by a rolling motion over a table covered with leather, the said wires being held between the table and the band. On each side of the table is a cylindrical grinder, whose surfaces are parallel to the table. As the wires pass between these grinders they are made of equal length. They then come to a second pair of grinders, which have a conical figure, and here they are pointed. "The pointed wires are next received one by one between the teeth of a toothed wheel, the said wires lying in the depressions between the teeth and being parallel to the axis of the wheel. The teeth do not extend all across the wheel, but only occupy the ends. In the space between the teeth a roll engages, which said roll forms a pair of rolls with the untoothed portion of the toothed wheel. The pointed wires are carried between this pair of rolls, and receive in their passage *the impress of the eyes and gutters.*"

The portion of the machinery which effects the grinding is applicable also to the manufacture of pins.

[Printed, 10d. Drawing.]

A.D. 1859, March 24.—N^o 748. (* *)

WILEY, WILLIAM EDWARD.—Improvements in the manufacture of boxes or cases for holding needles, pins, pencils, and other articles. The boxes are of a tubular figure, wholly or mainly of metal. In manufacturing some of them two cruciform or wing-shaped blanks are formed into tubes, one for the body the other for the lid. A piece of smaller tubing for the lid to slide on is fixed by soldering or other means to the body, and into the top of the lid and bottom are inserted "circular discs of paper" or other sufficiently soft and rigid material." The boxes are finished by being covered with plaid or other paper. Others are made by soldering a series of tubes round a central rod or tube; the lower end is closed by a disc, the upper end by a cover turning freely on the central tube. In one of the compartments a small bolt works, pressed to its bearing by a spring. The neck of the knob of the bolt passes through a slot, and the cover is fixed by the bolt passing through a hole therein. The contents of each compartment are removed by bringing the hole opposite to the open end thereof. Other boxes are made by bending a plate of corrugated metal into a cylinder, and fixing a tube on each side of it. The inner tube is closed at top and bottom by discs, and the ends of the compartments by covers turning on an axis. These covers have each a hole in them (as in the last-described boxes), and are fixed by a sliding bolt entering the same. The contents of the outer compartments are removed through the hole in the lower cover. The other boxes are made of V-shaped bars disposed radially upon a central tube; the cover is fixed by the bent end of a pin or rod which enters a hole in the same. The bolts and pins may be substituted by a plate placed upon the cover and capable of turning thereon. In the plate is a hole which must be brought opposite to and coincide with the one in the cover, before the contents of any compartment can be removed.

[Printed, 8d. Drawing.]

A.D. 1859, April 2.—N^o 827. (* *)

DESBOROUGH, SPENDLOVE.—(*Provisional protection only.*)—

"Improvements in making up needles, steel pens, and other small articles for sale." Grooves are impressed on part of the

surface of "a piece of paper, tin or other metal foil, stiffened fabric, " or other suitable material," by means of dies or tools; and the parts not impressed are afterwards folded over and secured over the grooved portion, "leaving one end of such series of grooves " open " for the introduction of the articles to be enclosed, that " end being afterwards covered by a loose flap folding over." Similar cases or packets may be made "by covering one or both " sides of a piece of grooved or corrugated foil or other suitable " material," leaving one end open as before, and closing it by a folding flap. In order to retain the contents in the cases there is placed in them, when being made up, "a thin strip of magnetized iron or steel," which will attract the pens, needles, &c., "and prevent them falling out of the grooves." This latter part of the invention "is applicable to cases of every description" for holding "small articles of iron or steel."

[Printed, 4d. No Drawings.]

A.D. 1859, July 22.—N° 1721.

NEWTON, WILLIAM EDWARD.—(*A communication from George Rugler, Boniface Plaz, and Jacob Rexroth.*)—(*Provisional protection only.*)—"Improvements in sewing machines." "The needle is " made with pointed ends and an eye in the middle, and is provided with side grooves to receive the thread; the section of " the needle is by preference elliptical in form."

[Printed, 4d. No Drawings.]

A.D. 1859, August 2.—N° 1784.

FLETCHER, HENRY.—Needle for sewing machines, "which in " rotating passes through and over the edges sewn," and when the cloth is suitably presented "produces the common handkerchief hemming stitch, such as is produced by bending the " hem over the finger, and passing the needle through the body " of the cloth and the edge of the hem."

[Printed 10d. Drawing.]

1860.

A.D. 1860, January 21.—N° 152.

WALKER, HENRY.—Packing needles. The inventor fits two pieces of card or other substance at some little distance apart in a

box. These pieces are punched with holes to receive small packets of needles, and are inserted in the box horizontally with the holes in the upper piece corresponding with the holes in the bottom piece. Thus the packets which go through the top holes stand also in the bottom holes, and so they are kept in position. The inventor occasionally substitutes little pockets of paper for the holes in the bottom piece.

[Printed, 8d. Drawing.]

A.D. 1860, February 8.—N° 337.

PIDDING, WILLIAM.—(*Provisional protection only.*)—Needles. This invention has reference to an improvement in the eyes of needles, and it consists in “the eye of the needle having an opening at the end or side, as most convenient, such part acting as a V-spring, opening by pressure of the thread, and again closing when such has passed into the eye.”

[Printed, 4d. No Drawings.]

A.D. 1860, February 11.—N° 369.

ROMEU, FRANÇOIS.—(*Provisional protection only.*)—Hair pins. “The invention consists in bending the branches of the hair pins at an angle, instead of making them parallel as usual.” “Hard metallic wire” is used, “so that the bent part of the pins acting as a spring keeps the branches in or brings them back to their angular position when they have been introduced into the hair with the branches brought nearly parallel by the pressure of the fingers; both branches thus press against the hair, and are therefore less liable to fall out.”

[Printed, 4d. No Drawings.]

A.D. 1860, February 13.—N° 391. (* *)

MARSH, JOHN.—“Improvements in sewing machines.” “As regards the construction of the needle the improvements consist in forming the upper part of the same with a flat eye in the upper part communicating direct with the ordinary groove or channel in the needle.” By this arrangement the liability to cutting is reduced.

[Printed, 1s. 6d. Drawings.]

A.D. 1860, April 16.—N° 947.

BROUGH, ROBERT, and COX, RICHARD.—(*Provisional protection only.*)—This invention consists in making pins, nails, &c.

by means of two pairs of rolls set at right angles to each other and furnished with indentations for forming the heads.

[Printed, 4d. No Drawings.]

A.D. 1860, May 29.—N° 1327. (* *)

HUGHES, HESKETH.—“Improvements in machinery for “goffering, fluting, shaping, embossing, and connecting together “lace, ribbons, and other like materials, parts of which improvements are also applicable to the shaping and corrugating of metals.”

The object of the third part of this invention is to connect or run together two pieces of lace, blond, or other material, and for this purpose a set of leaves are employed which have an up-and-down motion imparted to them by the guides at the side of the machine, similar to those before described, in combination with a fixed wave-shaped needle, made to correspond with the motion imparted to the leaves by the guides. This needle carries a thread, so that as the machine works the materials follow the shape of the needle, and the thread is run through them.

The other parts of the invention relate to subjects which do not require notice in the present series of abridgments.

[Printed, 1s. 4d. Drawings.]

A.D. 1860, June 8.—N° 1411.

BOUSFIELD, GEORGE TOMLINSON.—(*A communication from J. J. Greenough.*)—(*Provisional protection only.*)—Machinery for the manufacture of barbed and other needles for knitting and sewing. On a horizontal shaft are three discs. Two are connected together at a certain distance apart, “and they are “retained from sliding lengthwise on the fixed shaft.” The third disc is capable of sliding along as well as turning on the fixed axis. “In each of these discs holes are formed, which are equidistant from each other.” These holes form the bearings of the needle holders, which rotate within them. The two first discs carry the holders, the third advances and retires them. The wire is first fed into one of the holders. Shears cut off the length, and at the same time the grooves and eye are stamped. A wedge holds the length of wire in the holder, so that the blank rotates with the holder. The discs then turn and bring up another holder for wire. The first blank is, meanwhile, rotated against a grindstone, and again against a finer grindstone at the next advance.

" The partly finished needle is then brought forward by its tube
 " without revolving, and is ground flat on the same side as the
 " groove formed by the first operation." The needle is next
 polished, and if it is to be barbed it is taken to the bending
 apparatus.

[Printed, 4d. No Drawings.]

A.D. 1860, July 25.—N° 1810.

FOWLER, THADDEUS, and FOWLER, DE GRASSE.—Pins.

" The wire is carried into the machine by a pair of rollers, and
 " headed by successive blows while clamped in a jaw ; it is then
 " cut off, and carried out in a peculiar manner into notches in
 " two discs, and the pin or headed blank rests on a revolving or
 " rolling bed that is between and on each side of these discs, and
 " the pin is pressed to said rolling bed by a stationary surface.
 " The rolling bed is made to travel twice as fast as the notched
 " discs, hence the pins are revolved, and while thus revolving
 " they are pointed by several reciprocating cutters or files acting
 " on the same side of the pins as the stationary surface, so that
 " the pins roll under and against the said cutters."

After the pins are tinned or coated they are rolled and smoothed
 between a wheel and a stationary surface, so that the pin will
 enter freely into any ordinary fabric. In some instances "recipro-
 " cating burnishers " may be used in connexion with the wheel
 and surface.

[Printed, 10d. Drawing.]

A.D. 1860, August 15.—N° 1974.

LELY, AFFIFI.—Grooving sewing machine needles. The needle
 to be grooved is secured in a holder, which is capable of a semi-
 rotation so as to bring one or other side of the needle uppermost.
 A circular saw, fitted in a frame which enables it to be brought
 down upon the needle, cuts out the groove, the needle travelling
 under the saw while it rotates. The other side of the needle is
 then brought uppermost and the operation repeated.

[Printed, 8d. Drawing.]

A.D. 1860, September 7.—N° 2158. (* *)

NICOLL, BENJAMIN.—(Provisional protection only.)—Magne-
 tizing needles and needle-holders.

The inventor states:—"My invention is magnetizing all kinds of sewing and other needles. Those used in machines for the purpose of making them cling to the parts while being fastened and also to magnetize the parts of the machines that hold the needles, so as to allow my invention to be used where the needles are not magnetized.

"My invention will facilitate the adjustment of the needles by preventing their slipping while being placed in their proper position, thereby saving time and preventing the breakage of them through being improperly placed previous to the machine being set in motion, and will also allow sewing and other needles to be more easily threaded by applying the invention either to the needles or the holders for them."

[Printed, 4d. No Drawings.]

A.D. 1860, December 17.—N^o 3090.

TAYLOR, JOHN GEORGE.—(*Provisional protection only.*)—"The inventor says:—"My invention consists, firstly, in placing round or oval rings in the coils or heads, or round the necks of double or covered pointed pins, and by that means preventing the hair or garments from entering the heads of such pins. . . . I also twist the necks of double pins, thereby preventing the hair or garments from entering the heads; and I use the same means to fasten heads upon double pins, when such heads consist of another piece or pieces of metal or other material. And I make covered pointed pins with one or more projections forced out of the branch or sheath; and I use this system of projections in the manufacture of the flexible part of springs to facilitate their being opened. . . . I also use covered pointed pins in connection with springs to fasten watches, purses, and other articles in the pocket."

[Printed, 4d. No Drawings.]

1861.

A.D. 1861, February 20.—N^o 416. (* *)

NICOLL, BENJAMIN.—(*Complete Specification but no Letters Patent.*)—"Magnetizing needles, scissors, thimbles, &c.

This invention "consists in magnetising scissors, thimbles, and also all kinds of needles used for sewing purposes, including stitching, sewing, heming, embroidery (whether done by hand or by machine), and also those parts of machines that hold the needles, so as to facilitate the adjustment of them to the machine, and by its means they can be placed quickly to the nicety required."

The application of this invention "to scissors and thimbles will enable the sewer to place needles when not in use upon them, thereby preventing their being lost, and will enable persons to pick up needles more easily."

[Printed, 4d. No Drawings.]

A.D. 1861, June 14.—N° 1530.

JOHNSON, ALBERT FRANCIS.—A portion of this patent, which is for a sewing machine, refers to the construction of the under needle. This needle is bent in the shape **C**. One limb forms the shank and is secured to the holder by means of a champing screw. The eye is in the other limb and a thread guide is in the bend.

[Printed, 8d. Drawing.]

A.D. 1861, June 21.—N° 1599.

HARDING, THOMAS RICHARDS.—Pointing wire for needles, &c. The lengths of wire are introduced "into a hopper or receptacle from which they are fed by the action of a travelling sheet and retained in parallel rows by travelling guides. . . . This travelling sheet is caused to press upon the wires and hold them against the action of the stone, or by a slight access of speed to cause them to revolve during the operation of grinding. These travelling guides are so arranged in connection with the grinding stone that the pins are passed over the face of the stone at such an angle and elevation as may be necessary to produce the form of pin and point required." The inventor prefers to use the system of double stones, and he makes provision to render their wear uniform."

[Printed, 1s. 10d. Drawings.]

A.D. 1861, July 16.—N° 1787. (* *)

WELLS, JOHN SCOTT.—(*Provisional protection only.*)—"An improved needle used in the manufacture of looped fabrics."

The inventor says:—My improved needle differs from the common bearded needle in the following respects:—In place of the long beard which is depressed by a presser, which forms part of the machine or frame in which the common needle is used, I propose to use a needle having much shorter beard, or I make the needle to terminate in a hook, and in that part of the needle called the eye, which in the common needle is a groove lying under the beard, I use a slot made quite through the substance of the needle; in this slot I insert a small piece of metal, having a groove in its upper surface, which receives the end of the beard or hook; the metal piece passes through the slot, and is rivetted or enlarged on the bottom side thereof, so that the piece cannot be displaced; the piece is capable of sliding from one end of the slot to the other end, and the grooved portion is inclined downwards both ways. This needle may be used without a presser. I also propose to make needles, each end having a beard or hook and slot with sliding piece, as above mentioned."

[Printed, 4d. No Drawings.]

A.D. 1861, September 12.—N^o 2262. (* *)

BIRKBECK, GEORGE HENRY.—(*A communication from Thomson Hankey Alexander.*)—This invention consists in forming the eyes of needles of wedge shape, or in other words "nearly closing the sides of the eye towards the upper end thereof," thus the thread is securely retained and prevented from slipping while the needle is in use.

[Printed, 6d. Drawing.]

A.D. 1861, September 21.—N^o 2368.

DESBOROUGH, SPENDLOVE.—Pins, for hair, dress, &c. The inventor makes pins from "spirally formed wire." The wire is first coiled spirally round a mandril, and the resulting coil is extended or drawn out so as to produce an elongated spiral. The wire so prepared is cut into lengths and made into pins.

[Printed, 6d. Drawing.]

A.D. 1861, September 24.—N^o 2385.

COTTRILL, JAMES. — Needles. This invention relates to needles used for sail making, sack making, glove making, and

other similar purposes, and consists in making such needles square, or "four-sided in section, or with five or more sides and "and angles, except at the head, which will be of the usual "form."

[Printed, 4d. No Drawings.]

A.D. 1861, December 12.—N° 3115.

WILEY, WILLIAM EDWARD.—"Improvements in pencil cases "and holders for crayons and other solid writing or marking "materials, which improvement or improvements may also be "applied to crochet needle holders." Insiden a tubular case is a spiral of wire which acts the part of a screw. The shank of the crochet needle has a hooked projection at its upper end engaging with the said spiral, which surrounds it. One end of the spiral is fixed to the head of the tubular case or its nozzle, either of which is detached from the said case. By turning the head or nozzle, as the case may be, the spiral is also turned, and this acting on the hooked end of the needle shank, projects the needle from the holder, or withdraws it into the holder.

[Printed, 8d. Drawing.]

1862.

A.D. 1862, February 15.—N° 405.

EVERY, WILLIAM.—This invention relates,—

Firstly, to heading machinery. The heading die is supported "by means of a large screw, against the end of which said screw "the said heading die works. The said large screw is hollow, "and carries the cutting-off piece, against which the heading die "cuts off the wire to be headed. The said cutting-off piece is "supported in the said large screw by a smaller screw in the "hollow of the said large screw. The said large screw works in "the block which carries the heading die. By means of the said "large screw the heading die is accurately adjusted." The heading punch is adjusted by a screw instead of packing. "Secondly, to the feeder. To give the required intermittent motion to the feeding rolls, a disc is fixed on the axis of one of them. A jointed arm, worked by a cam, acts on the periphery

of the disc when it moves one way and feeds in a length of wire. It does not act on the disc when it moves in the opposite direction. The length of feed can be varied by adjusting the length of arm.

Thirdly, to feeding blanks into machines. A fork dips into the hopper containing the blanks, and returns bearing with it a blank. "The fork is next tilted," so delivering the blank into a rail which conducts it to the machine.

[Printed, 2s. 2d. Drawings.]

A.D. 1862, March 19.—N^o 764. (* *)

DESBOROUGH, SPENDLOVE.—(*Provisional protection only.*)—Needles. One of the improvements herein-named consists in forming needles with an additional eye or eyes "through which the sewing thread is passed after passing through the ordinary eye," thus the needle is not so liable to become unthreaded. Such needles may also be used to sew with several coloured threads at one time. The second improvement effects the same object by means of a "slit or opening at the back of the ordinary eye, into which the thread may be readily drawn" and so held.

[Printed, 4d. No Drawings.]

A.D. 1862, April 26.—N^o 1233.

BOYLE, ARTHUR, and WARWICK, THOMAS.—Hair pins. The wire is fed into the machine through straightening pins, and its end comes against a fixed stop or gauge which determines the length to be cut off. "A cutter working vertically cuts off the wire, and a rubber descending advances upon the wire and carries it by a rolling motion on the bed of the machine a short distance in advance of the place where it was cut off. During the rolling motion of the wire, the ends of the said wire pass over rotating cutters, whereby the ends of the wire are pointed." It then falls upon a pair of rollers, "the middle of the wire being over the space between the said rollers. A bending tool descends vertically and doubles the wire by carrying its middle down between the said rollers. When it is wished I corrugate the sides of the hair pin. The said bending tool as well as the rollers are corrugated."

[Printed, 10d. Drawing.]

A.D. 1862, May 12.—N° 1415.

WALKER, HENRY.—Handles for crochet needles. The handle is made by coiling glued paper round a spindle, which is afterwards withdrawn. The exterior is then ornamented or japanned. If the handles are required to be very strong cloth, cord, &c., are rolled with the paper. The spindle may be round or otherwise, according to the desired shape of the finished article. "Flattened" or slightly hollowed pieces may be fitted on both sides of the handle to indicate where the fingers should be placed.

[Printed, 4*l*. No Drawings.]

A.D. 1862, July 10.—N° 1986.

MANDER, JOSEPH.—Crochet needles and holders. The invention consists, firstly, in "fixing on that end of the crochet needle" inserted into the holder a small piece of brass or other material "having an expanded end, or making an expanded end on the said needle," by means of which the needle can be conveniently and rapidly attached to the holder. Also, "making a projecting" or crutch head to the needle, whereby the said needle is made "to engage with the hollow screw in the holder, by which it is" projected from and withdrawn into the said holder." Also, attaching to the needle by spring clips a little strip of metal bent in a tubular form. The ends of this strip pass through the longitudinal opening in the case, and being bent back on the case, constitute a slide for drawing the needle out or in. Several methods of covering and uncovering the needle by screwing are also described. In some, the needle is covered by a tube which works backwards and forwards with the screwing motion; in "another case the needle itself is retired and advanced.

[Printed, 8*d*. Drawing.]

1863.

A.D. 1863, March 24.—N° 770.

DAVIES, GEORGE.—(*A communication from George Penrice Farmer.*)—Papering needles.

The strip of paper or other material into which the needles are stuck, is permanently attached to a wrapper for folding over and

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enclosing the needles. The needles to be put in paper are first of all put in a hopper, which has a row of perforations in its bottom. As the hopper is pushed transversely across the table, these holes coincide with channels in the table, and a needle is therefore dropped into each channel. A number of rods actuated by a crosshead, moved in its turn by a crank, pushes the needles along the channels beneath the crimping block which is holding down the paper by its projections. Prior to this forward movement of the needles, the paper has been pressed down by the projections of the crimper into the grooves, thereby forming two ridges, which are penetrated by the points of the needles as they move along the channels. The crimping block is then raised, and a triangular block having sharp points on it, forms one revolution and advances the paper, after which the operation is repeated.

[Printed, 1s. Drawing.]

A.D. 1863, June 8.—N° 1424.

NEWTON, WILLIAM EDWARD.—(*A communication from William Penn Hyde.*)—Needles. “This invention consists in forming the “eye of a needle by turning over the end and forming a lap joint “through which the thread may be slipped sideways without the “necessity of inserting its end into the eye in the usual way.”

[Printed, 8d. Drawing.]

A.D. 1863, September 4.—N° 2183.

THORNHILL, CHARLES.—(*Provisional protection only.*)—“Metallic bristles for sewing.”

The inventor makes a substitute for bristles used in sewing leather from steel wire. The length of wire is flattened at one end, and the flattened end is twisted so as to make a spiral thread to which the sewing thread can be readily attached. Sometimes the bristles are split. In this case, when it is desired to substitute a steel bristle, the length of wire is bent double at the middle, and one half is twisted round the other half for a short length, leaving the untwisted parts like two ends or tails.

[Printed, 4d. No Drawings.]

A.D. 1863, September 24.—N° 2352.

MARSHALL, THOMAS, and MARSHALL, WILLIAM.—“Metallic bristles for sewing.”

One form of metallic bristle is made by bending a piece of wire at its middle, and twisting the wire for a length sufficient to act as the solid part of an ordinary bristle. The two ends are used to attach the thread in the same manner as the two ends of the ordinary split bristle.

Another method consists in making the bristle of a separate solid part, and attaching the ends or tails to it by means of one or two eyes in the solid part.

[Printed, 4d. No Drawings.]

A.D. 1863, December 1.—N° 3020.

COCHRAN, SAMUEL BEACH.—(*Provisional protection only.*)—

"Improvements in sewing machines and in apparatus connected therewith." "Part of this invention consists in making the shank or upper end of sewing machine needles flat upon one side so that it will form a guide when in connection with the spring or hinge piece" of the needle bar.

[Printed, 4d. No Drawings.]

A.D. 1863, December 26.—N° 3271. (* *)

BOESIGER, JOHN VICTOR.—(*Provisional protection only.*)—

"Improvements in sewing machines." "The eye of the needle is made much further from the point than heretofore," and "the groove on that side of the needle next the shuttle is carried down closer to the point than in the ordinary needles."

[Printed, 4d. No Drawings.]

1864.

A.D. 1864, February 22.—N° 447.

GEE, GEORGE PHILIP, and GOSLING, WILLIAM HENRY.—

"Machinery for sewing over the edges of fabrics, and forming on such edges what is also technically called a pearl stitch." In this machinery a "crochet hook" on the end of a "small shaft of steel" is used as a "twister" to take hold of the thread and present a loop to the needle in its next descent. The Provisional Specification claims also "a free grooved needle (grooved from its upper end to the eye)" in combination with the above-mentioned machinery.

[Printed, 1s. 10d. Drawings.]

A.D. 1864, March 9.—N^o 596.

BRODERICK, WILLIAM EDWARD, and REES, WILLIAM.—“Improvements in machinery for manufacturing needles for sewing machines.” The wire for making the needle is fed through a hollow spindle or chuck, which grips the wire and rotates with it. The end of the wire after passing through the spindle is supported in a bearing which may be slid along the framing, to and from the said spindle or chuck. As the sliding bearing moves forward along the length of wire, it carries with it a cutter, which bears against the revolving wire and cuts it. The end of a lever to which the cutter is attached works along a template, which regulates the amount of the cut to be taken from the needle shank.

[Printed, 10*d*. Drawing.]

A.D. 1864, June 20.—N^o 1528.

BEARD, GEORGE.—Punches for needles. The inventor forms a “holder or punch head of a suitable conical shape, but in two parts or jaws at the beak, the one jaw being removeable or hinged to the other; these two jaws are grooved internally at the beak to receive small points or lengths of wire formed by drawing the wire to any required section; these small points are placed in the grooves in the jaws, stops being provided at the base of the grooves to regulate their position, and the jaws are closed together and secured by a set screw. A steady pin may be used upon the one jaw engaging in a small hole in the other, to keep both parts firmly in position.”

[Printed, 8*d*. Drawing.]

A.D. 1864, July 16.—N^o 1788.

HODGE, THOMAS FRANKLIN.—(*A communication from Richard Mott Wanzer.*)—Needles for sewing machines. Two kinds of needles are described in this specification. Both are hooked, almost at right angles. One has an eye at the point, another at the heel or angle, with a groove along the top of the needle between the two eyes, in which the thread lies. The other is similarly provided as to the eyes, but the connecting groove is at the side of the needle.

[Printed, 8*d*. Drawing.]

A.D. 1864, August 29.—N° 2125.

BROOMAN, RICHARD ARCHIBALD.—(*A communication from Joseph Charles Howells.*)—(*Provisional protection only.*)—Hair pins. These hair pins have the two legs twisted spirally round one another so to speak. The hair pin thus forms a hollow spiral. Or one limb only may be twisted, the straight limb being in the centre of the spiral. Or again, one limb may be twisted spirally, and the other limb left straight, but very much shorter.

[Printed, 6d. Drawing.]

A.D. 1864, September 1.—N° 2150.

FOWLER, THADDEUS.—Coating pins, &c. In order to prevent the pins sticking together by the cooling of the coating metal, they are thrown while the coating metal is still molten upon them on a "vibrating screen or sifter, beneath which "are "other screens, sifters, or rods having a quick vibration." All these are over a vessel of water, so that as the pins fall separately through the screens, they are immediately cooled by the water. Thus the metal is evenly distributed over each pin.

[Printed, 8d. Drawing.]

A.D. 1864, September 12.—N° 2224.

SCHLEICHER, RICHARD.—(*A communication from Joseph Wolters.*)—(*Provisional protection only.*)—"Improved machinery "to be used in the manufacture of needles." "In the manufacture of needles pieces of steel wire of sufficient length to "make two needles are pointed at each end, and impressions "for two eyes are made near the middle of each of the said "pieces of wire." In making these impressions the wire is frequently flattened out, "making a wing or waste piece on either "side," which has to be removed. The inventor's machine is intended to perform this operation of removal. The needles are placed, in batches, in a holder which slides on a pair of rails over a revolving grindstone. As soon as one side of the row of needles has been ground, the holder is removed, and the needles are reversed, after which the grinding is resumed.

[Printed, 4d. No Drawings.]

A.D. 1864, September 27.—N° 2365.

BARTLEET, ROBERT SMITH.—(*Provisional protection only.*)—"Improvements in the manufacture of needles."

The objects of this invention are, firstly, to prevent the formation of burrs on the sides of needles when making the impressions for the eyes, which the patentee accomplishes by reducing the diameter of the wire at the part where the impressions are to be made before impressing it, so that the lateral expansion of the wire shall restore the wire to its original diameter. Secondly, to form the impressions for the eyes, heads, and gutters by pressing instead of stamping, thus producing but little expansion of the metal; and, thirdly, to remove the waste pieces at the heads of the needles without grinding or filing, which he accomplishes by suitable pressing tools.

[Printed 4*d*. No Drawings.]

A.D. 1864, October 14.—N^o 2540.

HOPSON, ORIN LEWIS, and BROOKS, HEMAN PORTER.—Machine for “pointing wires or rods for pins.” In the end of a revolving shaft is a pair of dies of the shape to be given to the end of the wire. The end of the wire is pushed into the dies, and as the shaft revolves, fixed cams press the dies together and so shape the point. The rotary motion at the same time perfects the shaping of the wire.

[Printed, 8*d*. Drawing.]

A.D. 1864, December 29.—N^o 3236.

HARDING, THOMAS RICHARDS.—A portion of this patent refers to an improvement upon the inventors previous Patent, No. 1599, A.D. 1861. In this latter patent the wires to be pointed are fed “direct from the hopper on to the main band of the machine,” and the inventor finds that the “wires or pins have a tendency to crowd together.” To obviate this he now employs “an additional travelling band, which receives the wires or pins from a hopper and delivers them on the main band. By regulating the speed of this additional or preliminary travelling band the delivery of the wires or pins on the main band is effected without crowding.”

The patent also comprises an apparatus for cutting wires or pins. The wires or pins are carried to the cutters by means of a travelling band. To ensure that they shall be cut to an even length, a gauge is provided which acts on their pointed ends and keeps the points in one regular and uniform line.

[Printed, 1*s*, 2*d*. Drawings.]

1865.

A.D. 1865, February 6.—N^o 325.

BROOMAN, RICHARD ARCHIBALD.—(*A communication from Joseph Charles Howells.*)—Hair pins.

These hair pins have the two legs twisted spirally round one another so to speak. The hair pin thus forms a hollow spiral. Or one limb only may be twisted, the straight limb being in the centre of the spiral. Or again, one limb may be twisted spirally, and the other limb left straight, but very much shorter.

[Printed, 8d. Drawings.]

A.D. 1865, February 15.—N^o 430.

NEWTON, ALFRED VINCENT.—(*A communication from Elias Howe, junior.*)—"Improvements in sewing machines." This invention includes, among other improvements, making "the heads of the needles and the socket in the needle bar with a flat side" to secure correct adjustment.

[Printed, 1s. 6d. Drawings.]

A.D. 1865, March 8.—N^o 644.

WADSWORTH, JOSEPH, and WADSWORTH, JAMES.—(*Provisional protection only.*)—Machinery for making "nails, sprigs, spikes, or pins, &c." "This invention consists in the employment of a revolving shaper working in connection with a stationary shaper. The revolving shaper is placed on the end of a shaft working in suitable bearings, and the stationary shaper is placed concentric or eccentric with the revolving shaper, the position depending upon the shape of the article to be manufactured; in all cases a sufficient space being left between the shaper at the entrance to allow the metal to pass in between them." When pins, nails, and sprigs are to be made, the stationary shaper is placed eccentrically with the circular shaper, and on both are formed "longitudinal corrugations or teeth for the purpose of causing the metal to revolve and carry it forward as it is being reduced in thickness or diameter, and when a head is to be formed," corresponding circular recesses are made in each shaper. "The prominent edge of the revolving

" shaper works nearly close to the prominent edge of the termination of the stationary shaper for the purpose of reducing the article to a point and cutting it off." Another method consists in the employment of "two circular shapers formed with recesses or prominences on their peripheries according to the article to be made," which revolve in the same direction and are moved to and fro from each other by eccentrics or otherwise. Instead of circular shapers the inventors claim also the use of rectilinear shapers.

[Printed, 4d. No Drawings.]

A.D. 1865, March 21.—N° 785.

FARMER, CHARLES, and TURNER, THOMAS.—"Machinery for manufacturing nails, pins, and rivets."

A length of wire sufficient for a pin is fed into the machine. A "compound grip motion" seizes the portion fed in and holds it while the head is being made. The grip relaxes, and the feed motion advances the partly formed pin. "Two or more lateral dies" now advance, cut off and point the pin, which drops into a spout leading to a suitable receptacle.

[Printed, 1s. Drawing.]

A.D. 1865, March 23.—N° 819. (* *)

MORRELL, ROBERT WILSON.—"Improvements in machinery for sewing and stitching." This invention relates to "the construction and arrangement of a machine for sewing and stitching, having a series of needles on one needle slide in combination with a series of duck bill crochet hooks working on one reciprocating shaft, each needle having its own hook."

[Printed, 1s. 10d. Drawings.]

A.D. 1865, April 6.—N° 976.

NEWBY, EDWIN HENRY.—(*A communication from Henri Caudey.*)—The inventor points pins and needles by suspending them to the positive pole of a galvanic battery, immediately above the negative element, "and as close as possible to it without being actually in contact, some exciting liquor such as dilute nitric acid completing the circuit."

[Printed, 8d. Drawing.]

A.D. 1865, May 13.—N^o 1331. (* *)

CAIRD, JAMES KEY.—(*Provisional protection only.*)—"Improvements in sewing machines" for "sewing over the joints of any two or more pieces of cloth." A "hollow spiral needle" is employed for this purpose, one end of which is pointed. "As the needle revolves it passes through these portions of the cloth requiring to be stitched, and the thread being placed in the needle, which is made hollow, it (the thread) is left in the hollow passage which the needle has formed. A split is made throughout the whole length of the spiral needle, so that the thread may be placed therein with facility."

[Printed, 4d. No Drawings.]

A.D. 1865, May 16.—N^o 1363.

CROSBY, CHAUNCEY ORRIN.—"Tapering, pointing, or reducing wires or rods." "This invention consists in placing automatically or otherwise the pieces of metal to be tapered, reduced, or pointed into revolving spindles, which will present the said pieces successively to one or more rapidly vibrating hammers, the said spindles having a lateral movement for introducing each piece under the hammer, and withdrawing it therefrom, for enabling the hammers gradually to draw the wire tapering, or reduce it in diameter, or form it to a point as desired."

This invention being obviously applicable to the manufacture of pins is included in this series.

[Printed, 1s. 6d. Drawings.]

A.D. 1865, May 18.—N^o 1377. (* *)

LAING, JAMES.—(*Provisional protection only.*)—"Sewing machines" for "over heading" in which spiral needles are employed. Part of this invention consists in making such spiral needles "partly hollow or tubular and partly solid. The solid part of the needle forms fully one circle of it and commences from the point, whilst the hollow or tubular portion extends throughout the remainder of its length, except a short piece at the further end, which is left solid."

[Printed, 4d. No Drawings.]

A.D. 1865, June 23.—N^o 1685.

LUSTY, WILLIAM.—(*Provisional protection only.*)—"Machinery for the manufacture of needles."

A number of wires, cut to the length of two needles, are placed in a hopper above a wheel which has "sinkings or grooves upon its periphery." As the wheel revolves each wire in turn falls from the hopper into the groove immediately under the hopper, and is kept in position by a wire which "binds half the periphery of the wheel." The wheel brings the wire into contact with a pair of dies which stamps the eyes; it then advances it to another pair of dies by which the eyes are completely pierced. The wheel still revolving brings the wire under the machine, where the "fins or feathers" are cut off by a cutter die, and the needle wire falls into a receiver below.

[Printed, 8d. Drawing.]

A.D. 1865, July 24.—N^o 1920.

HART, HERBERT WILLIAM.—(*Provisional protection only.*)—"Pins. The inventor proposes to make the spindles of pins "of a spiral or worm form for a portion or the whole" of their length. The head may be made solid with the spindle, or the spindle may be moveable in the head.

[Printed, 4d. No Drawings.]

A.D. 1865, August 10.—N^o 2074.

CROSBY, CHAUNCEY ORRIN.—Machinery for the manufacture of needles. The feeding apparatus pushes forward a length of wire sufficient for a needle. This is cut off and received into a die, one of a number carried on the periphery of a circular disc. The length of wire is then submitted by the rotation of the disc to the action of dies, which successively flatten the wire, groove the head, countersink or partially punch the eye, complete the eye, and cut the surplus metal from the head. The needle is then turned one-fourth round in the holder, and the head is finished off in emery mills. To form the point the needle wire is transferred from the holder on the rotating plate to a revolving spindle "on another rotating plate." It is similarly carried to a number of vibrating hammer dies which draw out and shape the point.

The point is then completed by grinding and burnishing. A modification of the mechanism is also described.

[Printed, 4s. 6d. Drawings.]

A.D. 1865, October 3.—N° 2532.

LAKE, WILLIAM ROBERT.—(*A communication from Henry Hudson.*)—The needle described in this Specification, and which is intended to be used in a sewing machine, is curved in such a manner that “when piercing the cloth it will act as a means to “ draw forward the machine along the fabric being sewed.”

[Printed, 8d. Drawing.]

A.D. 1865, October 24.—N° 2748.

NEWTON, ALFRED VINCENT.—(*A communication from Thomas John Halligan.*)—Needle for sewing machinery. “This needle is “ wedge-pointed, and on one side of the bevelled point it is “ grooved both above and below the eye, . . . the lower “ portion being so cut away upward toward the groove as that the “ eye shall as far as practicable incline in a direction approaching “ the axis of the needle, instead of transversely crossing the same, “ as is usually the case. The groove on the opposite bevelled “ surface of the needle should not extend below the eye; it gradually increases in depth as it extends upward and terminates “ about an inch above the eye. . . . The thread passes through “ the eye of the needle nearly in a line with the axis thereof.”

[Printed, 1s. 6d. Drawings.]

A.D. 1865, October 26.—N° 2766. (* *)

BENNETT, LEONARD.—“An improved needle.” This improvement consists in tapering the needle towards the eye as well as towards the point.

[Printed, 6d. Drawing.]

A.D. 1865, December 1.—N° 3086.

HEDLEY, HENRY, and AINSLEY, GEORGE.—Needle for sewing machines. “The eye of the needle is made to pass “ obliquely through the needle, and the needle is without a groove “ from the eye to the point of the needle, but has a groove above “ the eye on that side at which the thread enters, and a slight “ groove upon the opposite side.”

[Printed, 1s. Drawing.]

A.D. 1865, December 6.—N° 3143.

SALAMON, NAHUM, and DAVIDS, WILLIAM JOHN LAWRENCE.—(*Partly a communication from Joseph Thorne.*)—"Improved machinery for manufacturing sewing machine needles." The inventors first introduce the wire from which the needles are to be made into a machine which stamps the names, removes the burr, straightens the wire, tapers it by a rotating cutter, and finally cuts off the length. The blank produced by this machine is fitted into the end of a split mandril and a portion of the metal is turned down to the diameter requisite for the needle stem. The next operation is to groove the needle, and this is effected by the use of a pair of rotary cutters, which act alternately on the needle shaft while it is held firmly between a pair of grippers. Thus a long groove is formed on one side of the needle and a short one on the other. The eye is to be pierced and the needle finished in the ordinary manner.

[Printed, 3s. 6d. Drawings.]

A.D. 1865, December 22.—N° 3309. (* *)

NEWHALL, RICHARD.—(*Provisional protection only.*)—Needle cases. The improved cases are made with a pad of some elastic material, as cork, at the bottom. The points of the needles enter into this pad and are so preserved. The pad may be covered with a coating of fine emery powder attached by glue.

[Printed, 4d. No Drawings.]

1866.

A.D. 1866, February 7.—N° 378.

BROWNE, BENJAMIN.—(*A communication from Gustave Mayer.*)—(*Provisional protection only.*)—The inventor proposes to substitute for the ordinary needle used in fancy needlework on canvas, &c. a needle having two points, with the eye equidistant between the points. Thus the needle need not be turned when passed to and fro.

[Printed, 4d. No Drawings.]

A.D. 1866, March 8.—N^o 711.

TROTMAN, ADOLPHUS, TROTMAN, JOHN, and COLE, THOMAS JOHN.—(*Provisional protection only.*)—Hair pins.

This invention applies to "hair pins which have in themselves a tendency to spring open at the points, and so keep in the hair. They are usually made with heads in a loop form, the limbs approaching close together or nearly so at the termination of the loop." The improvement consists in "winding a small wire helically round the wire of the pin forming the loop, . . . which imparts to the limbs . . . a much stronger tendency to open." A "similar loop head" may be applied to single pins, thus affording better hold for the fingers. Wire may also be similarly coiled in hair pins to give them a greater tendency to come together.

[Printed, 4d. No Drawings.]

A.D. 1866, March 23.—N^o 867.

TROTMAN, ADOLPHUS, and TROTMAN, JOHN, and COLE, THOMAS JOHN.—(*Provisional protection only.*)—"Improvements in hair and other pins and cases." These hair pins are made "with heads in a loop form, but spreading from thence." A small wire is wound helically round that part of the wire forming the loop, "where it is fixed and imparts to the limb of the hair pin a greater tendency to open, and so hold itself more firmly in the hair. A similar loop head may also be applied to single pins, that is, with one limb, which affords better hold in the fingers for such pins." The wire of the hair pin itself may be formed into a helical coil at that part constituting the head, instead of having the wire coiled on, or an inner coil of smaller wire may be introduced. A case for holding pins of different sizes is also described.

[Printed, 4d. No Drawings.]

A.D. 1866, May 9.—N^o 1331. (* *)

ESSEX, HENRY.—Sewing needles. The object of this invention "is to make the needle stiffer and stronger without increasing the amount of material employed." To effect this the body of the needle is made triangular or prismatic in form. "The point

" end is of the usual cylindrical and tapering form, and the eye
" end of the needle is also round, the prismatic portion of the
" needle being about half its length more or less."

[Printed, 8d. Drawing.]

A.D. 1866, September 1.—N° 2251. (* *)

BILLIOTTE, EDMOND VINCENT.—(*A communication from Jules Doderet.*)—(*Provisional protection only.*)—"An improved needle
" case or holder." This needle case has "a small india-rubber or
" cork cushion mounted on a metal or other plate which moves up
" and down inside the case by means of a shaft connected to the
" cushion." While the case is open the needles or pins in the
cushion will be spread out in a fan-shape and so facilitate selection.

[Printed, 4d. No Drawings.]

A.D. 1866, October 6.—N° 2576.

BURGESS, JOHN. — (*Provisional protection only.*) — Crochet
needles and handles. The invention consists, firstly, "in applying
" to cylindrical hollow handles of crochet needles short hooks or
" needles made of bone, ivory, glass, ebonite, or wood." It also
consists in making the handles of "a conical or taper tube, the
" said tube being flat or oval in cross section. The said handle
" is widest at bottom, and gradually tapers to the top or end, at
" which the hook or needle is affixed; by constructing the handles
" in this way they are held with great ease." When steel hooks
or needles are used with these handles, a plug of wood or bone is
inserted in the end of the hollow handle, and a hole is bored in it
to receive the needle. The needle is fixed by cement or rivetting,
and the end of the handle is covered by a cap.

[Printed, 4d. No Drawings.]

A.D. 1866, October 12.—N° 2638.

EVANS, DAVID.—Wrappers for needles. The needles are first
stuck, side by side, in a narrow slip of paper or other material.
This strip is then secured to the wrapper by passing its two ends
through slits in the wrapper, or it may be secured to the wrapper
by clips or rivets. The wrapper or envelope is so formed that it
has two flaps which, when raised, exhibit the points and eyes of
the needles. The wrapper covers the middle part of the needles,

so that the thumb does not come in contact with the needles in opening the packet, thus avoiding rusting the needles by the moisture of the hand. Instead of employing a distinct piece of paper for the needles, they may be stuck in the material of the wrapper, if desired.

[Printed, 10d. Drawing.]

A.D. 1866, October 20.—N° 2714.

HOPSON, ORIN LEWIS, and BROOKS, HEMAN PORTER.—
"Pointing wires or rods to form pins, needles, &c.," &c.

This invention is an improvement on that for which Letters Patent were granted to the same inventors in 1864 (No. 2540). In that Patent the pointing was performed by a pair of dies carried in the end of a rotating shaft. The dies were acted on by fixed cams. The present improvement consists in substituting toggle joints for these cams.

[Printed, 8d. Drawing.]

A.D. 1866, November 1.—N° 2835.

POLLACK, MAURICE.—Papering needles. The inventor sticks the needles into the strip of paper in such a manner that they constitute different parallel planes. "That is to say, at the front " or back of a row of needles stuck into a strip of paper" he sticks "another parallel row of needles, each needle of the last " mentioned row being situated between two adjacent needles of " the first mentioned row." Or three rows of needles may be arranged, in which case "each needle of the outer rows of needles " is stuck between every two adjacent needles of the inner or " middle row." Economy of space is the desired result of this method of packing. The strip of paper carrying the needles is enclosed in a wrapper or cover. The strip has "wing-shaped or " pointed projecting pieces," which pass through slits in the wrapper, and are folded or turned back on the wrapper. Or the strip is attached to the wrapper by some adhesive material.

[Printed, 8d. Drawing.]

A.D. 1866, December 27.—N° 3399.

BROOKES, WILLIAM, and MAYES, JOHN. — Needles. A groove is formed on the needle, in which the thread lies so that

it is not chafed by the fabric. This groove is made from or near the point, and extends along the stem to any required length.

"A portion of the stem of the needle has one or more turns or twists given to it according to the work upon which the needle is intended to be employed."

[Printed, &c. Drawing.]

INDEX OF SUBJECT MATTER.

[The numbers refer to those pages in which the Abridgments commence. The names printed in *Italic* are those of the persons by whom the inventions have been communicated to the applicants for Letters Patent. The Roman numerals refer to the Introduction.]

Annealing, tempering, &c. pins and needles and wire :

Berry, 11.
Goodman, 12.
Smith, 27.

Bodkins :

Bell, 2.

Bristles for sewing, metallic :

Thornhill, 50.
Marshall and Marshall, 50.

Cases and wrappers, needle.

*See Making up for sale
Needles, &c.*

Casting needles and pins :

Bell, 2.
Harris, 2 (casting on heads).

Coating, whitening, and colouring needles and pins :

Harris, 2.
Scambler, 3.
Goodman, 12.
Robertson, 15.
Jenkins, 16.
Parkes, 32.
Fowler and Fowler, 43.
Fowler, 53.

Colouring pins. *See Coating pins.*

Crochet needles and holders :

Bell, 2.
Walker, 17.
Davis, 56.
Wiley, 47.

N.

Crochet needles and holders— *cont.*

Walker, 49.
Mander, 49.
Morrell, 56.
Burgess, 62.

Eyes of needles, making and finishing, &c. :

Sheward, 1.
Scambler, 4.
Cocker, 10.
Morral, 10.
Hebert, 12.
Beard, 22, 52.
Bartleet, 22.
Milward, 24.
Hughes, 24.
Baylis, 29.
Baylis and Green, 29.
Bousfield, 33.
Newton, 34.
Walker, 35.
Nicholson, 38.
Pidding, 41.
Marsh, 41.
Bousfield (*Greenough*), 42.
Wells, 45.
Birkbeck (*Alexander*), 46.
Desborough, 48.
Newton, W. E. (*Hyde*), 50.
Boesiger, 51.
Beard, 52.
Hodge (*Wanser*), 45.
Schleicher (*Wolters*), 53.
Bartleet, 53.
Lusty, 53.
Crosby, 58.
Newton, A. V. (*Halligan*), 59.
Hedley and Ainsley, 59.
Salamon and Davids (*Thorne*), 60.
Essex, 61.

Glovers' needles :

Bell, 2.
Cottrill, 33, 46.

Grooving needles :

Cocker, 10.
Bartleet, 22.
Baylis, 29.
Cottrill, 33.
Nicholson, 38.
Bousfield (*Greenough*), 42.
Lely, 43.
Hodge (*Wanser*), 52.
Bartleet, 53.
Crosby, 57.
Newton, A. V. (*Halligan*), 59.
Hedley and Anisley, 59.
Salamon and Davids (*Thorne*), 60.
Brookes and Mayes, 63.

Hair pins :

Johnson, 27.
Iles, 28.
Edridge, 30.
Smith and Talbot, 32.
Trotman, 37.
Romeu, 41.
Boyle and Warwick, 46, 52.
Desborough, 46.
Brooman (*Howells*), 53.
Trotman, Trotman, and Cole, 61.

Heading pins :

Bundy, 2.
Harris, 2.
Bradbury and Weaver, 3.
Hunt, 4.
Wright, 4.
Ledsam and Jones, 5, 6.
Brown, 6.
Ledsam and Jones, 6.
Berry, 6.
Bethell, 7.
Slocum, 7.
Shuttleworth and Taylor, 10.
Pope, 10.
Berry, 11.
Stocker, 12.
Goodman, 12.
Newton, 13, 14, 15.
Jenkins, 13.
Newton, 14.
Newton, 15.
De Meckenheim, 16.
Lusty, 19.
Stokes, 30.
Monnin, 35.
Brough and Cox, 41.
Fowler and Fowler, 43.
Taylor, 44.
Avery, 47.
Wadsworth and Wadsworth, 55.
Farmer and Turner, 56.
Hart, 58.
Trotman, Trotman, and Cole, 61.

Knitting needles and pins :

Bell, 2.
Bousfield (*Greenough*), 42.

Magnetising needles, &c. :

Nicoll, 43, 44.

Making up for sale needles and pins, and needle cases :

Berry, 11.
Jenkins, 13.
Newton, 15.
James, 20, 23.
Morris, 23.
James, 23.
Beard and Beard, 26.
Turney, 26.
Iles, 28.
Bartleet, 28.
Wiley, 31.
Bennett, 32.
Bartleet, 34.
Turney, 37.
Wiley, 39.
Desborough, 39.
Walker, 40.
Davies (*Farmer*), 49.
Newhall, 60.
Trotman, Trotman, and Cole, 61.
Billiotte (*Doderet*), 62.
Evans, 62.
Pollack, 63.

Mesh pin :

Bell, 2.

Needles :

Weisenthal, 1.
Bell, 2.
Bock, 5.
Cropper and Milnes, 8.
Sneath, 9.
Thomas, 16.
Walker (*Orochet*), 17.
Brown, 17.
Bernard, 19.
Beard, 22.
Bartleet, 22.
Newton, A. V., 23, 33, 34, 59.
Douglass, 23.
Hughes, 24.
Brooman, 25.
Avery, 25.
Szontagh, 26.
Baylis, 29.
Atkin and Miller, 29.
Brooman, 29.
Pearson and Jessop, 30.
Sugden and Sugden, 31.
Dunnett, 31.
Clark, 31.
Bousfield, 33.
Newton, A. V., 33.

Needles—*cont.*

Cottrill, 33, 46.
 Brooman, 34.
 Newton, A. V., 34.
 Walker, 35.
 Henry, 36.
 Davis, 36 (crochet).
 Callebaut, 36.
 Twells, 37.
 Brooman (*Dutet*), 37.
 Newton, W., 38.
 Newton (*Eugler, Plas, and
 Bezroth*), 40.
 Fletcher, 40.
 Pidding, 41.
 Hughes, 42.
 Johnson, 45.
 Wells, 45 (for looped fabrics).
 Birkbeck (*Alexander*), 46.
 Cottrill, 46.
 Wiley, 47 (crochet).
 Desborough, 48.
 Mander, 49 (crochet).
 Newton, W. E., (*Hyde*), 50.
 Thornhill, 50 (bristles).
 Marshall and Marshall, 50
 (bristles).
 Cochran, 51.
 Boesiger, 51.
 Gee and Goaling, 51.
 Hodge (*Wanser*), 52.
 Newton (*Howe*), 55.
 Morrell, 56.
 Caird, 57.
 Laing, 57.
 Lake (*Hudson*), 59.
 Newton, A. V. (*Halligan*), 59.
 Bennett, 59.
 Hedley and Ainsley, 59.
 Salamon and Davids (*Thorne*),
 60.
 Browne (*Mayer*), 60.
 Essex, 61.
 Brookes and Mayes, 63.

Needles, magnetising :

Nicoll, 43, 44.

Needles, manufacture of :

Sheward, 1.
 Bell, 2.
 Scambler, 3.
 Ledam and Jones, 6.
 Birkby, 9.
 Cocker, 10.
 Morrall, 10.
 Hebert, 12.
 Walker, 17.
 Iles, 21.
 Beard, 22, 52.
 Bartleet, 22, 53.
 Milward, 24.
 Hughes, 24.
 Szontagh, 26.
 Smith, 27.
 Baylis, 29.

Needles, manufacture of—*cont.*

Cottrill, 33, 46.
 Schleicher, 35.
 Walker, 35.
 Callebaut, 36.
 Nicholson, 38.
 Bousfield (*Greenough*), 42.
 Lely, 43.
 Harding, 45.
 Cottrill, 46.
 Newton (*Hyde*), 50.
 Broderick and Rees, 52.
 Hodge (*Wanser*), 52.
 Beard, 52.
 Schleicher (*Wolters*), 53.
 Bartleet, 53.
 Harding, 54.
 Newby (*Cauderay*), 53.
 Crosby, 57.
 Lusty, 58.
 Crosby, 58.
 Newton (*Halligan*), 59.
 Hedley and Ainsley, 59.
 Salamon and Davids (*Thorne*),
 60.
 Hopson and Brooks, 63.
 Brookes and Mayes, 63.

Netting needles :

Bell, 2.

Packing needles :

Bell, 2.
 Cottrill, 33, 46.

Pins (hair and dress) :

Harris, 2.
 Goodman, 12.
 Robertson, 15.
 Jenkins, 16.
 Bowley, 17.
 Taylor, 18.
 Johnson, 27.
 Edridge, 30.
 Smith and Talbot, 32.
 Trotman, 37.
 Romeu, 41.
 Taylor, 44.
 Desborough, 46.
 Boyle and Warwick, 48.
 Brooman (*Howells*), 53.
 Hart, 58.
 Trotman, Trotman, and Cole, 61.

Pins, manufacture of :

Wright, x.
 Hunt, x.
 Taylor, x.
 Kinsley, xi.
 Howe, xi.
 Slocum, xi.
 Bell, 2.
 Harris, 2.
 Bundy, 2.
 Bradbury and Weaver, 3.
 Hunt, 4.

Pins, manufacture of—*cont.*

Wright, 4.
 Ledsam and Jones, 5, 6.
 Brown, 6.
 Ledsam and Jones, 6.
 Berry, 6.
 Slocum, 7.
 Bethell, 7.
 Birkby, 8.
 Shuttleworth and Taylor, 10.
 Pope, 10.
 Berry, 11.
 Stocker, 12.
 Goodman, 12.
 Newton, W., 13, 14, 15.
 Jenkins, W. W., 13.
 Newton, W., 14.
 Newton, W., 15.
 Robertson, J. C., 15.
 De Meckenheim, 16.
 Jenkins, M., 16.
 Jacquin, 18.
 Newton, A. V., 18.
 Lusty, 19.
 Iles, 21, 28.
 Johnson, 27.
 Wakefield, 27.
 Iles, 28.
 Edridge, 30.
 Stokes, 30.
 Parkes, 32.
 Schlucher, 35.
 Monnin, 35.
 Nicholson, 38.
 Harding, 38.
 Brough and Cox, 41.
 Fowler and Fowler, 43.
 Taylor, 44.
 Desborough, 46.
 Avery, 47.
 Boyle and Warwick, 48.
 Fowler, 53.
 Hopson and Brooks, 54, 63.
 Harding, 54.
 Wadsworth and Wadsworth, 55.
 Farmer and Turner, 56.
 Newby (*Cauderay*), 56.
 Crosby, 57.
 Hopson and Brooks, 63.

Pointing needles:

Wood, xiii.
 Prior, xiii.
 Roberts, xiii.
 Abraham, xiii.
 Scambler, 3.
 Ledsam and Jones, 6.
 Birkby, 9.
 Cocker, 10.
 Walker, 17.
 Iles, 21.
 Bartleet, 22.
 Szontagh, 26.
 Schleicher, 35.
 Nicholson, 38.
 Bousfield (*Greenough*), 42.
 Hardins, 45.

Pointing needles—*cont.*

Broderick and Rees, 52.
 Schleicher (*Wolters*), 53.
 Harding, 54.
 Newby (*Cauderay*), 56.
 Crosby, 57, 58.
 Newton (*Halligan*), 59.
 Salamon and Davids (*Thorne*), 60.
 Hopson and Brooks, 63.

Pointing pins:

Hunt, 4.
 Wright, 4.
 Ledsam and Jones, 5, 6.
 Brown, 6.
 Slocum, 8.
 Birkby, 8.
 Shuttleworth and Taylor, 10.
 Berry, 11.
 Goodman, 12.
 Newton, 13, 15.
 Newton, 15.
 De Meckenheim, 16.
 Lusty, 19.
 Iles, 21.
 Iles, 28 (hair pins).
 Schleicher, 35.
 Nicholson, 38.
 Fowler and Fowler, 43.
 Harding, 45.
 Boyle and Warwick, (hair pins), 52.
 Hopson and Brooks, 54, 63.
 Harding, 54.
 Wadsworth and Wadsworth, 54.
 Farmer and Turner, 56.
 Newby (*Cauderay*), 56.
 Crosby, 57.
 Hopson and Brooks, 63.

Punches for needles:

Callebaut, 36.
 Beard, 52.

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 Taylor, 18.
 Edridge, 30.
 Taylor, 44.

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 Bartleet, 22.
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 Newton, A. V., 23, 33, 34, 59.
 Hughes, 24.
 Brooman, 25.
 Avery, 25.
 Szontagh, 26.
 Atkin and Miller, 29.

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Newton, A. V., 34.
Henry, 36.
Callebaut, 36.
Twells, 37.
Brooman (*Dutetl*), 37.
Newton, W., 38.
Newton (*Eugler, Plaz, and
Euzroth*), 40.
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Marsh, 41.
Hughes, 42.
Lely, 43.
Nicol, 43, 44.
Johnson, 45.
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Boesiger, 51.
Gee and Gosling, 51.
Broderick and Rees, 52.

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Hodge (*Wanzer*), 52.
Newton (*Howe*), 55.
Morrell, 56.
Caird, 57.
Laird, 57.
Lake (*Hudson*), 59.
Newton, A. V. (*Halligan*), 59.
Hedley and Ainsley, 59.
Salamon and Davids (*Thorne*),
60.

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needles :

Bell, 2.
Cottrill, 33, 46.

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5. Patents sealed.
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